SIXTH

ANNUAL REPORT

ON THE CONDITION

OF THE

COMBINED SANITARY DISTRICT

OF

WEST SUSSEX.

BY

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ERRATA.

Page 1, line 18—for 33·5 read 35·1 and for 20·7 read 2·10,
,. 2, ,, 23—for 156 read 153.
,, 3, ,, 31—for "Chemicl" read Chemical.
,, 15, ,, 12—for 33·5 read 35·1.
,, 15, ,, 13—for 20·7 read 21·0.
,, 19, ,, 10—for × read +.
,, 27, ,, 13—for 33·5 read 35·1 and for 20·7 read 21·0.
,, 35. ,, 3—in col, 2, for 82.8 read 28·8.
,, 44, ,, 1—in col. 6, for 13 read 1.
,, 44, ,, 3—in col. 6, for 17 read 1.
,, 53, ,, 15—in col. 2, for 2.8 read 3·8
,, 53, ,. 20—in col. 2, for 4·8 read 3.8
,, 91, ,, 3 from bottom for "whose" read where.
,, 96, in col. under 1 year, transpose 180·4 and 107·3.

INTRODUCTION.

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The present Report differs from preceding ones in containing a series of tables analysing the death rates more closely than before. These tables give not only the deaths in each parish from all causes, but they show also the deaths which have occurred during the past five years from three important groups of disorders, viz., the deaths from zymotic disease, from consumption, and from lung disease.

In examining into the death-rate of any district, the simplest, but not the most perfect way, is to find out the total number of deaths for the year, and then dividing this number by the known or estimated population, the quotient gives the death-rate for the year.

If the population be estimated too high, the death-rate is unduly low; if, on the other hand, those deaths are not put to the credit of a district which properly belong to it, as, for instance, the deaths taking place in a Workhouse outside the district, the death-rate will also be too low. In this Report the deaths in Workhouses and in public institutions are given to each parish whence the inmates came, and the population is estimated to have increased at the same rate as in the last decennial period.

In calculating the death-rates for any special group of diseases, it is obvious that the result may be affected by the prevailing views of the time, or by the advance of medical education. Thus, many years ago, dropsy was put down as a frequent cause of death; but dropsy is really a symptom, and not a disease, and it is common to some forms of heart disease and kidney disease. Now, on examining a series of death-returns for a long term of years, it will be evident that cases of heart disease and kidney disease have gradually been increasing, while deaths from dropsy have been rapidly diminishing. It would be wrong to come to the conclusion at once that heart disease was more common in this country than formerly, the truth being that many cases used to be included under the term dropsy which now are put down as disease of the heart or kidneys.

Medical knowledge having progressed, it is usual now to indicate the organ affected, and not one of the most prominent symptoms. In a similar way it may be shown that consumption

(phthisis) is becoming less frequent, and that lung disease is increasing; but doubtless, much that was once called phthisis is now more correctly recognised as lung disease. Considerations of this nature will at once show the fallacies that may attend any inquiry into the death-rates of any group of disorders.

It is doubtless true that the tendency in the present day is to record as the cause of death the diseased organ which proximately brings about death, and thus it is the diseases of local organs (Class III. of the Registrar-General) seem to be on the increase.

So long, indeed, as the general death-rate is stationary, it seems clear that there is not much improvement in the health of a people. The diminution of deaths in one class has been met by an increase in some other class.

During the 30 years ending in 1870 the death rate in England in each decennial period was 22·4, 22·2 and 22·4. The rate remained nearly the same, but inasmuch as the population rapidly increased during the time, it seems probable that sanitary measures prevented that rise in the mortality which might have been expected from the more closely grouping of the people. But during the past eight years, there does seem to have been a marked diminution in the general death-rate throughout the country. In the current decade 1871-80, the average annual death-rate in England and Wales has not exceeded 21·6 per 1000. How far this gradual improvement has affected each district will be seen in the following Report.

Another method of analysing death returns, and one free from any waves of fashion, is to find out the number of persons dying at each year of life; but as this process would involve enormous labour, it is sufficient for all practical purposes to find out the deaths occurring at various groups of ages, and then knowing or estimating the number of people living in each group, it is easy to find out the death-rate in each group. By common consent six groups of ages are generally taken, viz., under one year, one and under five, five and under fifteen, fifteen and under twenty-five, twenty-five and under sixty, sixty and upwards. The death-rate in each group being known, it may then be compared with the death-rate throughout the country in a corresponding group. In this Report the mean general death-rate in each group is based on the deaths which occurred in England and Wales in the ten years 1861-70, and on the mean population during that period. No more recent return will be available until the next census has been taken.

An examination of these tables will show that the death-rate is high in the first group, much lower in the second, and lowest of all between 5 and 15; it slowly rises up to 40 years, and the increase then becomes more rapid through every year of life.

A town or district which has a large population of persons from 5 to 25, that is, of persons whose mortality is always low,

has a more favourable death rate than a district in which the population is differently grouped. Thus it is that towns which contain many schools, or seaside places where there are many young servants employed, have, as a rule, a low mortality, because there is in such places an excess of those individuals who are at the most healthy ages. On the other hand, this advantage is often reduced by reason of people retiring advanced in life to a seaside place for a residence, and such persons add to the death rate,

In such places, too, the birth rate must always be low, inasmuch as the number of married women capable of bearing children is less than usual in proportion to the total number of the inhabitants.

But although it is important to note these considerations, it will yet be found that one variation often counterbalances another, and that the general death-rate is not materially affected thereby.

The books which will be often referred to are—

1. Supplement to the 25th Annual Report of the Registrar-General, 1864.
2. Supplement to the 35th Annual Report of the Registrar-General, 1875 [c. 1155—1].
3. Deaths in England during the Decennial Period, 1861-70. 1873 [c. 874].
4. Dr. Buchanan's Report. Appendix No. 5 in Tenth Report of the Medical Officer of the Privy Council, 1867.

SIXTH ANNUAL REPORT

ON THE

HEALTH OF THE COMBINED SANITARY DISTRICT OF WEST SUSSEX.

RURAL SANITARY DISTRICT OF STEYNING.

POPULATION (1871), 14,060. AREA IN ACRES, 45,678
No. OF HOUSES (1871), 2,659.

DURING the year 1879 the births of 499 children, and the deaths of 196 persons were registered; in the year 1878 there were 513 births and 243 deaths. Of the births 268 were male, and 231 were female; of the deaths 106 were male, and 90 were female.

Estimating the population in the middle of 1879 at 16,540, the birth-rate was 30·1, and the death-rate was 11·8 per 1000 persons living.

Throughout England and Wales the birth-rate during the year was 33·5, and the death-rate was 20·7 per 1000 of the population estimated to be living in the middle of the year.

The deaths from *zymotic*, or catching disorders, were 12 in number, or 1 in 16 of the total number of deaths. In the four previous years there were respectively 27, 39, 15 and 35 deaths from this group of disorders.

The 12 deaths included one from scarlet fever, one from diphtheria, two from whooping-cough, three from enteric or typhoid fever, one from "fever," one from diarrhœa, two from erysipelas, and one from pyæmia.

The rate of mortality from these diseases was 0·7 per thousand persons living, against 1·7, 2·3, 1·0 and 2·1 in the four preceding years.

The following table shows the birth-rate and the death-rate in the more important parishes, and in the rest of the district:—

	Birth-rate.	Death-rate.
Portslade Parish	34·0 ...	9·0
Southwick Parish	24·3 ...	10·1
Rest of Shoreham Sub-District	25·2 ...	12·3
Steyning Parish	35·8 ...	13·5
Henfield Parish	29·7 ...	13·9
Rest of Steyning Sub-District	36·1 ...	14·4
Whole of District ...	30·1 ...	11·8

In each parish the deaths were as follows :—

Preston 0, Patcham 11, West Blatchington 0, Hangleton 0, Portslade 31, Aldrington 1, Southwick 32, Kingston 5, Lancing 11, Old Shoreham 3, Sompting 11, Combs 2, Buttolphs 2, Bramber 1, Steyning 23, Upper Beeding 15, Edburton 1, Poynings 3, Woodmancote 2, Henfield 28, Ashurst 6, Shermanbury 8.

There were 13 deaths in Shoreham Workhouse belonging to the rural district, and these have been distributed among the several parishes whence each inmate came.

The infant mortality is here given as measured by the number of deaths under one year to the total number of births in the year :—

	No. of Births.	No. of Deaths under 1 year.	Ratio to 1000 of Births.
Portslade Parish	117	11	94
Southwick Parish	77	5	65
Rest of Shoreham sub-district	94	9	95
Steyning Parish	61	6	98
Henfield Parish	60	3	50
Rest of Steyning sub-district	90	7	78
Whole of District ...	499	41	82

Throughout England and Wales there were during the year 136 deaths of infants under one year of age to every 1000 children born, against 158, 146, 136, and 156 in the four preceding years.

In each quarter the births and deaths were as follows :—

	Births.			Deaths.		
	M.	F.	Total.	M.	F.	Total.
1st Quarter ...	75	79	154	41	28	69
2nd „ ...	47	57	104	23	26	49
3rd „ ...	69	47	116	26	18	44
4th „ ...	77	48	125	16	18	34
Total ...	268	231	499	106	90	196

The influence of a cold and severe winter greatly increased the death-rate amongst young children and old people; this may be readily shown thus :—

	Under one year.	1—5.	5—15.	15—25.	25—60.	60 and Upwards.	Total.
1st Quarter ...	17	9	1	1	20	21	69
2nd „ ...	10	4	2	3	11	19	49
3rd „ ...	8	3	2	2	14	15	44
4th „ ...	6	2	1	4	8	13	34
Total ...	41	18	6	10	53	68	196

The cool wet summer and fine autumn caused the death-rate amongst children to be very low in the second half of the year.

No woman died during the year from any disease attending

childbirth; in the previous year four women died at or soon after delivery.

The 41 infantile deaths included 2 cases of whooping-cough, 1 of diarrhœa, 3 from convulsions, 1 from meningitis, 9 from lung diseases, 1 from kidney disease, 12 from debility or atrophy, 9 from premature birth, 2 from teething, and 1 was found drowned in a river.

Of 196 deaths from all causes, 59 were under five years of age, 16 from five to twenty-five, 53 from twenty-five to sixty, while 68 persons died sixty years and upwards.

There were three deaths returned as "not certified" in the district out of a total of 196; an infant, 3 months, thrush; male, 41 years, natural causes; an infant, 9 months, teething and convulsions.

In nine cases inquests were held; of these four were cases of suicide, and three were cases of accident; in one case a newly-born child was found drowned at Portslade, when a verdict of wilful murder was returned against some person unknown; and in another case the infant of a single woman was shown not to have had a separate existence.

In this district about 5 per cent. of the children born are illegitimate; the proportion is higher in the Shoreham sub-district than in the Steyning sub-district.

In the Steyning sub-district out of 211 births only one infant born out of wedlock died during the year—female, 11 months, marasmus.

In the Shoreham sub-district out of 288 births two illegitimate infants died during the year—female, 3 weeks, debility, and a female, prematurely born, in which case an inquest was held.

Sussex Chemicl Works.—On a waste of beach in the parish of Lancing, and nearly opposite Kingston station, are situated some chemical works, which at times cause a nuisance. Between the beach and the main road runs the river Adur, and there are no houses within some 300 yards of the works.

In these chemical works various products are distilled from gas-tar and gas-liquor. The gas-tar is pumped from a large closed reservoir into a retort, and it is then subject to heat at different temperatures, by which means first naptha, then creosote, and finally anthracine are distilled over.

The naptha is received into an iron vessel, and the fumes given off cause no marked nuisance. The creosote is received into large boilers, which are laid on the beach, and serve as reservoirs; this process does not seem to cause any nuisance now. The anthracine is distilled over into open tanks, and a layer of water three or four inches in depth floats on the top, and prevents any disagreeable fumes from being given off. During the past year there has been much improvement in the mode of distilling over these products, and the above processes

are now conducted without causing a nuisance. After the distillation of these products, the pitch which remains in the retort is run off into a large open tank prepared for its reception, and this hot pitch gives off at times most offensive smells. If run off slowly through a tap, the nuisance it not great at a distance of 300 or 400 yards, but when it is run off rapidly, the gases produce a nuisance which may be noticed at a distance of a mile.

When the wind blows from the north, the products are carried away to sea, and do no harm; but when the wind blows from the south the gases are driven landwards, and may be smelt at Southwick or Shoreham, according as the wind is south-west or south-east. To remedy this nuisance, care should be taken to run off the pitch very slowly when the wind is blowing towards the land.

Another process of manufacture carried on here consists in distilling gas liquor; this fluid, being heated in a retort, gives off ammonia, which being mixed with sulphuric acid, forms sulphate of ammonia. In this process sulphuretted hydrogen is given off, and if this be allowed to escape into the open air, the nuisance is very great. To prevent any nuisance from this cause, the foul gases are now carried away through pipes into which water enters, and the water, after absorbing some of the gases, soaks away into the beach. Any gases not dissolved can be conducted into a furnace, and are then consumed and rendered harmless.

These works would probably cause no nuisance if there were constant supervision, and if greater care were taken to make use of the various appliances for consuming or getting rid of any foul gases. At times the nuisance arising from these works is much complained of, but although very disagreeable, there does not seem to be any evil result as regards the health of the people living near or engaged on the works (See Report III. p. 4; Report IV. p. 5.)

The Steyning district is divided into two parts by the South Downs. The *Shoreham* sub-district contains 13 parishes, the inhabitants of which dwell for the most part on a nearly level strip of land between the Downs and the sea. Along this level, and overlying the chalk, there is a loamy soil, fit for making bricks, and between the brick earth and the chalk there is generally a sandy or gravelly bed, in which water may be found. All along the coast water may be found from eighteen to twenty-five feet in depth, and in very wet seasons the level of the water in the wells may rise nearly to the surface of the ground. So that, although in this sub-district the people are dwelling on the chalk formation, which is generally dry and porous, yet here, in consequence of the superficial covering of loamy brick earth, and from the level surface of the soil, the

ground is at times very wet, and the water-bed rises very nearly to the surface. From Portslade on the east to Lancing on the west, there are many places which lie in low and damp situations, but further away from the sea, where the ground rises gently to the north, the houses are built upon the dry chalk.

The Steyning sub-district lies to the north of the Downs. Steyning and Bramber are built chiefly on the chalk; Upper Beeding, Edburton, and Poynings on the upper greensand; Henfield and Woodmancote on the beds of the lower greensand, while Ashurst and Shermanbury are on the Weald clay.

The chalk ends abruptly on its northern aspect, and anyone going northward would pass successively over the upper greensand, gault, lower greensand and Wealden clay beds, which in this order crop up to the surface. The upper greensand is a pervious bed, and water may generally be found here at a depth of 70 to 80 feet, where it is held up by the impervious gault beneath. Very few people dwell on the gault, and there is no village on this bed.

The lower greensand is generally very pervious, but in many parts, thin beds of white, soft clay, hold up the water, and make local areas very damp. The surface of these beds is thrown into easy and gentle slopes, off which surface water readily runs. The Weald clay forms a series of small undulations; it is in parts very impervious, and in winter this area is cold and damp, and the surface water does not run off readily.

The best supply of water in this district is from the springs in the chalk, which in many places break forth at the foot of the Downs. At Shoreham, and at other places on the south of the chalk hills there is abundance of water. The water at Shoreham is pumped up to a reservoir, and the water company supply the adjacent villages of Kingston, Southwick, and Portslade, as well as Old and New Shoreham.

A new main is now being laid to the old village of Portslade, which stands upon higher ground than the newly-built portion, and it is probable that Lancing will soon receive a supply from the same source. When the scheme is complete, all the villages along the coast line will be amply supplied with excellent water.

At Steyning and at Poynings to the north of the Downs there are fine springs issuing from the chalk just where the upper greensand beds crop out, but in neither place is there at present any public supply. In the upper greensand the water is generally good, but in the lower greensand beds there is much iron, and the water is frequently impregnated with that substance. When the supply is obtained from a spring or deep well it is of very good quality.

The water in the Weald clay is generally obtained from shallow wells or dipping holes, and such water is often very hard and liable to impurities from the surface. It is a good and common practice always to boil this water before it is used.

The influence of dampness of soil as affecting the distribution of phthisis in this district has been worked out by Dr. Buchanan for the ten years 1851—60. But in that paper the district includes Hove and New Shoreham—areas which are not in the rural district, and therefore a proper comparison between the amount of consumption then and now cannot be properly made.

The following table shows the mean annual death-rate for the past five years in four important parishes, while the other small parishes are grouped together, forming the rest of the sub-districts; the table also shows the mean annual death-rate from three groups of disorders :—

District.	Mean Death-rate per 1000 at all ages.	Soil.	Mean Annual Death-rate per 100,000 living from—			Surface.
			Zymotic disease.	Phthisis	Lung disease.	
Portslade	14·3	Loam and combe rock overlying chalk.	234	133	247	Gentle slopes, storm water runs off readily.
Southwick	13.7	Loamy soil overlying chalk.	169	148	202	Nearly level, storm water runs off readily.
Rest of Shoreham sub-district	13·2	Chalk and loamy soil overlying chalk.	126	161	181	Mostly level.
Steyning	16·1	Chalk.	177	224	354	Good slopes, ground high and dry.
Henfield	17·7	Lower Greensand.	111	222	283	Good slopes, ground high, dry, sandy.
Rest of Steyning sub-district	14·8	Upper Greensand and Weald clay.	137	234	193	Gentle slopes, many parts wet and low.

The figures for each parish are given in Table IV.

The following summary shows the improvement that has taken place in this district in recent years. The general death-rate from all causes has been distinctly lowered, but the most marked change is noted in the deaths from zymotic diseases, as these have been reduced to less than one-half. There is also

less phthisis, but the lung-disease rate has increased; adding the two numbers together, there would seem to be an increase, which probably is partly due to an improved nomenclature, and partly to greater accuracy in registering the cause of death.

The deaths under one year are now rather fewer than formerly, while those under five years are considerably less. Still the death-rate at these ages is unduly high for a country district, and the infantile death-rate is much higher in the Shoreham sub-district, than in the Steyning sub-district. On the other hand, the deaths at other ages are higher in the latter than in the former area.

Per 100,000 persons living.	1851—60.	1861—70.	1875—79.
All ages, both sexes—			
General Death-rate	1597	1614	1468
Zymotic Death-rate	326	342	161
Phthisis Death-rate	197	201	179
Lung Disease Death rate	189 } 386	192 } 393	231 } 410
15 *to* 55 *years*—			
Phthisis Death-rate.	295 mean. 304 female.	288 mean 309 female	264 mean 229 female
Lung Disease Death rate.....	...	87 male 39 female	73 male 39 female
Under 1 year.....	14101	14543	14218
Under 5 years	4826	5035	4347

Table II. shows that the years 1877 and 1879 were very free from any infectious disease. *Measles*, although appearing frequently, has only caused 4 deaths during the past 5 years. *Scarlatina* has not been prevalent since the year 1876; *Diphtheria* does not appear here in an epidemic form as it does in some districts on the Weald clay.

At Steyning there were several cases in the year 1878, but since the sewer has been better ventilated the disorder has not appeared. The only fatal case from this disease last year was at Lancing, where a young man working in the brickfields, and living in a damp house, caught a severe cold and sore throat. No other cases occurred in the house or neighbourhood.

Whooping-cough was very prevalent in 1875 and 1878, but no estimate of the number of children attacked can be given.

Of the 17 cases recorded as "continued fevers," 6 were of a doubtful nature; 2 were called typhus, but in neither was there any history of previous exposure to infection, nor did the patients

have any rash, nor was there any spread of the disorder; 9 were cases of enteric fever, and in nearly all of these there was some local defect in the drains which brought about the illness.

Diarrhœa varies in intensity from year to year, being high in 1876 and 1878, and very low in 1877 and 1879. The cool, wet summer of last year was the chief cause of the very low mortality from this cause.

Rheumatic Fever is seldom met with in this district.

Puerperal Fever caused no deaths last year, but the absence of any epidemic of scarlet fever, small pox, or diphtheria may account for this. Nearly every case of puerperal fever may be traced to previous infection, and the disease ought to disappear if greater precautions were taken by those in attendance. Portslade stands highest in the list of zymotic disorders; this village and the adjoining one of Southwick contain a large number of children and the places are increasing fast, so that when any outbreak of measles, scarlatina or whooping-cough appears, the disorder rapidly spreads.

Table IV. shows the number of deaths occurring in each parish during the past five years.

The rate per 1000 for very small parishes is of no value as one fatal case makes the rate appear very high; the small parishes are all grouped together on page 6 as forming "rest of the sub-district" in which they are placed.

Steyning.—This place was drained in the year 1877, and an account of it appeared in Report V. 1879. It was then shown that many cases of enteric fever and diphtheria appeared to be caused by the foul gases arising from the ventilators on the level of the street. Since then, these ventilators have been closed and large cast-iron pipes four inches in diameter have been carried up from the main sewer to a point above the housetops. No complaints are now made and no fresh cases of illness from this cause have occurred.

The sewage at the outfall is seldom properly carried over the land, but it is often allowed to run into a stream which is thus rendered very impure.

Portslade.—The old village of Portslade stands at the foot of the Downs, about half a mile to the north of the newly-built portion of Portslade-by-sea. It drains into a pond about midway between the two areas; this pond is in the centre of a meadow, and in hot weather it is very offensive. The Sanitary Authority have had it frequently cleaned out and they have had it made much smaller, so that it is very much less offensive than it used to be; in fact, the nuisance is abated as far as it can be done until a system of drainage is carried out.

A scheme of drainage has been laid before the Sanitary Authority by Mr. Grindle in which it was proposed to take 21 acres of land just to the south of the railway and close to some new houses which are being erected there. This land is valuable

for building purposes and some of it has lately been sold at prices varying from £500 to £1000 per acre. Therefore the proposal was to do away with the nuisance which at present is far away from any houses and to make a sewage farm close to an area on which many fresh houses are every year being built. About 45 houses in the old village drain into the main sewer, and as the land on the lowest estimate would cost £500 an acre, then the 21 acres would cost more than £10,000 and this large sum would have to be expended merely on the purchase of land without taking into account the construction of a sewer, the laying out of the farm and the annual cost of repairs and labour. A scheme so costly found no favour with the ratepayers, and as the death-rate of the parish is only 14.3 per 1000 on the average of the past five years there does not seem to be any necessity for doing more than what the Sanitary Authority are now doing, viz., to keep the pond frequently cleaned out and to apply the manurial contents on the adjacent land. In this way the nuisance, if not actually removed, will be so abated as to cause no harm, while the annual cost of cleansing will be very small.

At some future time Portslade, Southwick and Fishergate will all require to be drained, and the best plan will be to carry all the sewage to the sea.

In the meantime these places are well supplied with wholesome drinking water and there is no chance whatever of this supply being contaminated.

A few cases of overcrowding have been dealt with during the past year, and in each case the nuisance has been abated.

No cases occurred in which it was necessary to condemn meat or any other article of food.

The bakehouses and slaughter houses have been inspected at intervals, and they have been kept in a cleanly state.

There is no common lodging house in the district.

No proceedings were taken before the magistrates during the year.

The cases of sickness among paupers were fewer than before and there was no prevailing epidemic during the year; one pauper died of fever and one from erysipelas but these were the only fatal cases from zymotic disease.

There were 345 cases of sickness against 422, 474, 376 and 398 in the five preceding years.

STEYNING RURAL SANITARY DISTRICT.

TABLE I.—Showing the Deaths and Death-rate at various groups of ages in the five years 1875-79.

YEAR.	At all Ages.	Under 1 year.	1 and under 5.	Total under 5 yrs.	5 and under 15.	15 and under 25.	25 and under 60.	60 and upwards.
1875	243	65	11	76	11	15	48	93
1876	242	54	40	94	9	12	60	67
1877	244	53	21	74	10	11	75	74
1878	243	60	35	95	8	11	49	80
1879	196	41	18	59	6	10	53	68
TOTAL.....	1168	273	125	398	44	59	285	382
Mean	233·6	54·6	25·0	79·6	8·8	11·8	57·0	76·4
Population in 1877 in group.	15913	384	1447	1831	3527	3222	6172	1161
Death-rate per 1000 persons living in each group	14·6	142	17·3	43·4	2·5	3.6	9·2	65·8
Death rate in England at corresponding ages in the 10 years 1861—70.	22·4	180·4	36·3	68·3	6·3	7·2	14·0	67·7

TABLE II.—Showing the Deaths in each of the Five Years, 1875-79 from Zymotic Diseases.

YEAR.	Small Pox	Measles	Scarlatina	Diphtheria	Croup (not "spasmodic")	Whooping Cough	Cont. Fvrs.			Diarrhœa and Dysentery	Cholera	Rheumatic Fever	Erysipelas	Pyæmia	Puerperal Fever	TOTAL	Rate per 1000 living
							Typhus	Enteric or Typhoid	Other or doubtful								
1875	...	...	...	5	...	7	...	2	2	8	...	...	3	...	...	27	1·7
1876	...	3	12	4	...	3	...	3	2	11	...	...	...	...	1	39	2·3
1877	...	...	3	2	...	1	...	1	1	3	...	...	2	...	2	15	1·0
1878	...	1	...	2	...	11	2	...	...	16	...	...	1	...	2	35	2·1
1879	...	...	1	1	...	2	...	3	1	1	...	...	2	1	...	12	0·7
Tl.	...	4	16	14	...	24	5	9	6	39	...	...	8	1	5	128	1·6

STEYNING RURAL SANITARY DISTRICT.

TABLE III.— Showing the Total Deaths from Zymotic Diseases in each Parish in the 5 years 1875-79 in the Steyning R.S.D.

PARISH	Small Pox	Measles	Scarlatina	Diphtheria	Croup (not "spasmodic")	Whooping Cough	Cont. Fevers: Typhus	Cont. Fevers: Enteric or Typhoid	Cont. Fevers: Other or doubtful	Diarrhœa and Dysentery	Cholera	Rheumatic Fever	Erysipelas	Pyæmia	Puerperal Fever	Total
Preston	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5
Patcham	...	...	...	...	...	...	...	...	...	5	...	...	...	...	...	5
West Blatchington	...	...	..	...	...	...	...	...	...	...	...	...	1	...	...	1
Hangleton	...	..	..	...	...	...	...	...	...	...	...	...	...	...	...	...
Portslade	...	..	10	1	...	8	...	3	1	13	...	...	...	...	1	37
Aldrington	...	...	..	..	..	...	...	...	...	1	...	...	...	...	...	1
Southwick	...	2	3	3	...	2	...	1	3	10	...	...	1	...	...	25
Kingston	...	...	...	1	...	...	...	...	..	1	...	...	2	...	...	4
Lancing	...	...	...	1	...	3	...	1	...	2	...	...	...	...	...	7
Old Shoreham	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	2
Sompting	...	...	..	...	...	...	...	...	1	1	...	...	...	...	...	2
Coombes	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...
Buttolphs	...	..	..	...	...	1	...	...	...	...	...	...	...	...	...	1
Bramber	...	...	...	...	...	1	...	...	...	..	...	...	...	...	...	1
Steyning	...	1	...	5	...	4	...	2	...	2	...	...	1	...	...	15
Upper Beeding	...	...	...	2	...	1	...	...	...	2	...	...	...	...	...	5
Edburton	...	1	...	1	...	1	...	...	...	...	...	...	1	...	1	5
Poynings	...	...	..	...	...	...	...	...	...	...	...	...	...	...	1	1
Woodmancote	...	..	1	...	...	...	...	...	..	...	...	...	...	...	...	1
Henfield	...	...	2	...	...	1	1	1	...	2	...	...	2	...	2	11
Ashurst	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Shermanbury	...	...	...	...	...	2	1	...	...	...	...	...	...	1	...	4
WHOLE DISTRICT	..	4	16	14	...	24	2	9	6	39	...	...	8	1	5	128

Table IV. showing the Deaths and Death-rate from all causes

PARISH.	Population in 1877.	Mean Death-rate per 1000 all ages	DEATHS FROM ALL CAUSES in				
			1875	1876	1877	1878	1879
Preston	10	—	—	—	—	—	—
Patcham.....	820	10·0	9	5	7	9	11
West Blatchington ...	45	9·9	—	—	1	1	—
Hangleton	65	12·3	1	1	2	—	—
Portslade	3161	14·3	37	54	45	60	31
Aldrington.....	55	18·2	—	1	—	3	1
Southwick	2956	13·7	46	44	44	37	32
Kingston	327	18·9	5	9	5	7	5
Lancing	1120	12·9	9	18	18	16	11
Old Shoreham	275	13·1	6	2	2	5	3
Sompting	750	13·6	9	8	11	12	11
Coombs	95	14·7	2	1	1	1	2
Buttolphs	85	23·5	3	—	1	4	2
Bramber..	200	7·0	1	1	1	3	1
Steyning	1693	16·1	32	28	33	21	23
Upper Beeding	605	18·8	15	8	13	6	15
Edburton	300	12·0	7	3	2	5	1
Poynings	320	10·6	2	7	2	3	3
Woodmancote	320	10·6	2	6	3	4	2
Henfield.....	1978	17·7	38	37	41	32	28
Ashurst	388	15·4	7	6	6	5	6
Shermanbury	348	21·8	12	3	6	9	8
WHOLE DISTRICT	15913	14·6	243	242	244	243	196

NITARY DISTRICT, 1875-79.

from various causes in each Parish in the five years.

otal hs in ne ears.	Mean Annual Number of Deaths.	TOTAL DEATHS in the Five Years from			Mean Annual DEATH-RATE per 100,000 living from		
		Zymotic Disease,	Phthisis.	Lung Disease.	Zymotic Disease.	Phthisis.	Lung Disease.
—	—	—	—	—	—	—	—
41	8·2	5	3	5	122	73	122
2	·4	1	—	—	444	—	—
4	·8	—	—	2	—	—	615
27	45·4	37	21	39	234	133	247
5	1·0	1	—	1	363	—	363
03	40·6	25	22	30	169	148	202
31	6·2	4	4	3	244	244	183
72	14·4	7	8	10	125	142	178
18	3·6	2	3	2	145	218	145
51	10·2	2	8	8	53	213	213
7	1·4	—	3	—	—	631	—
10	2·0	1	1	2	235	235	470
7	1·4	1	2	1	100	200	100
37	27·4	15	19	30	177	224	354
57	11·4	5	9	10	165	297	330
18	3·6	5	2	1	333	133	66
17	3·4	1	3	4	62	187	250
17	3·4	1	6	—	62	375	—
76	35·2	11	22	28	111	222	283
30	6·0	—	3	5	—	154	257
38	7·6	4	4	3	230	230	172
68	233 6	128	143	184	161	179	231

(A) TABLE OF DEATHS during the year 1879, in the Rural Sanitary District of STEYNING; classified according to Diseases, Ages, and Localities, and showing also the Population of such Localities, and the Births therein during the year.

(I) Names of Localities (being Parishes Groups of Parishes, Townships, Wards, or other areas of known population) adopted for the purpose of these Statistics; public institutions being excluded.	Population at all ages		Registered Births.	Mortality from all causes at subjoined ages							Mortality from subjoined causes, distinguishing deaths in Persons under five Years of Age.																				
	Census 1871	Estimated to middle of 1879		At all ages	Under 1 year	1 and under 5	5 and under 15	15 and under 25	25 and under 60	60 and upwards		Small Pox	Measles	Scarlatina	Diphtheria	Croup (not "spasmodic")	Whooping Cough	Cont. Fevers: Typhus	Cont. Fevers: Enteric or Typhoid	Cont. Fevers: Other or doubtful	Diarrhœa and Dysentery	Cholera	Rheumatic Fever	Erysipelas	Pyæmia	Puerperal Fever	Ague	Phthisis	Bronchitis, Pneumonia and Pleurisy	Heart Disease	Injuries	Other Diseases
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
Portslade Parish	2344	3440	117	31	11	4	2	—	6	8	Under 5			1															2		2	10
											5 upwds																	2	3	1	1	9
Southwick Parish	2339	3165	77	32	5	5	1	—	9	12	Under 5																		1			9
											5 upwds																	4	3	2	1	11
Rest of Shoreham Sub-District.	3407	3726	94	46	9	2	—	4	16	15	Under 5													1					4			7
											5 upwds				1				2	1								8	2	3	3	15
Steyning Parish	1665	1703	61	23	6	2	1	2	5	7	Under 5						1												4			3
											5 upwds								1									4	2	1	1	5
Henfield Parish	1856	2018	60	28	3	3	1	3	5	13	Under 5						1							1					2			3
											5 upwds																	3	2	9		8
Rest of Steyning Sub-District...	2449	2488	90	36	7	2	1	1	12	13	Under 5										1								1			7
											5 upwds														1			8	4	1		13
											Under 5																					
											5 upwds																					
											Under 5																					
											5 upwds																					
(II.) Public Institutions.											Under 5																					
											5 upwds																					
Totals	14060	16540	499	196	41	18	6	10	53	68	Under 5			1			2				1								14		2	39
											5 upwds				1				3	1				2	1			29	16	17	6	61

(B) TABLE OF MORTALITY AND SICKNESS in the Rural Sanitary District of STEYNING, 1879, for the twelve calendar months ending December 31st, 1879.

NAME OF DISEASE.	(A) Deaths (among all classes) registered as having occurred in the District or Division.				(B) Sickness and Deaths among Paupers.				(C) If there be be any Hospital or other Public Medical Institution in or near the District or Division, the subjoined columns are to be filled up.					
	Total deaths registered as above; including those enter'd in cols. IV. and V.		Deaths of Persons who have come into the District or Division with their fatal illness upon them.		Sickness and Deaths among out-door paupers; and among any paupers who belong to the District or Division, and have been removed into the Workhouse on account of illness; whether the Workhouse be within or without the District or Division.				IN-PATIENTS. Sickness and Deaths in such Institutions among inmates WHO BELONG TO the District or Division.				OUT-PATIENTS. New cases of Sickness among persons WHO BELONG to the District or Division, and are Out-Patients of Hospitals or Patients of Dispensaries.	
					New Cases		Deaths		New Cases		Deaths			
	Aged under 5 years	Aged 5 yrs. and upwds.	Aged under 5 years	Aged 5 yrs. and upwds.	Aged under 5 years.	Aged 5 yrs. and upwds.	Aged under 5 years.	Aged 5 yrs. and upwds.	Aged under 5 years.	Aged 5 yrs. and upwds.	Aged under 5 years.	Aged 5 yrs. and upwds.	Aged under 5 years.	Aged 5 yrs. and upwds.
I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	XII.	XIII.	XIV.	XV.
Small-Pox	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Measles	...	...	...	...	...	1	...	...	...	...	...	...	...	...
Scarlatina	1	...	...	...	1	4	...	...	...	...	...	..	...	...
Diphtheria	...	1	...	...	...	...	...	...	...	...	...	...	...	...
Croup (not "spasmodic")	...	...	...	...	...	...	...	...	...	...	...	...	...	..
Whooping Cough	2	...	...	...	1	1	...	...	...	...	...	...	...	...
"Continu'd" Fevers. — Typhus	...	...	...	...	...	...	...	...	...	...	...	...	...	...
"Continu'd" Fevers. — Enteric	...	3	...	..	...	1	..	1	...	...	..	...	...	...
"Continu'd" Fevers. — Of other or doubtful sorts	...	1	...	...	..	1	...	...	...	...	...	...	...	...
Diarrhœa and Dysentery	1	...	...	..	2	5	...	...	...	...	...	...	...	...
Cholera	...	..	...	...	...	...	...	..	...	...	...	...	...	...
Rheumatic Fever	...	...	...	...	...	..	...	...	...	...	...	...	...	...
Erysipelas	...	2	...	...	...	2	...	1	...	...	...	...	...	...
Pyæmia	...	1	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ague	...	...	...	...	...	2	...	...	...	...	...	...	...	...
Phthisis	...	29	...	...	...	7	...	3	...	...	...	...	...	...
Bronchitis, Pneumonia & Pleurisy	14	16	...	...	4	40	...	1	...	...	...	...	...	...
Heart-Disease	...	17	...	...	...	6	...	3	...	...	...	...	...	...
Injuries	2	6	...	...	3	17	...	...	...	...	...	...	...	...
DISEASES NOT NAMED ABOVE	39	61	...	...	32	215	2	9	...	...	...	...	...	...
Total	59	137			43	302	2	18						

RURAL SANITARY DISTRICT OF HORSHAM.

POPULATION (1871), 14,131. AREA IN ACRES, 68,798
No. OF HOUSES (1871), 2,781.

DURING the year 1879 the births of 499 children and the deaths of 241 persons were registered; in the year 1878 there were 490 births and 204 deaths. Of the births 281 were male, and 218 were female; of the deaths, 128 were male, and 113 were female.

Estimating the population at 14,440, the birth-rate was 34·5, and the death-rate was 16·7 per 1000 persons. Throughout England and Wales the birth-rate during the year was 33·5, and the death-rate was 20·7 per 1000 persons living.

The deaths from *zymotic*, or catching disorders, were 21, or 1 in 11 of the total number of deaths. Three children died of measles, one of scarlatina, three of diphtheria, eight of whooping-cough. One person died of enteric fever, one from "fever," three of diarrhœa, and one of puerperal fever. The rate of mortality from these disorders was 1·4 per 1000 persons living, against 2·3, 1·9, 0·4, and 0·9 in the four preceding years.

Throughout England and Wales the death-rate from the seven principal zymotic diseases was equal to 2·39 per thousand, against 3·4, 3·1, 2·7 and 3·3 in the four preceding years.

In each sub-district the birth-rate and death-rate were as follows:—

	Population.	Births.	Birth-rate.	Deaths.	Death-rate.
South sub-district ...	3765	140	37·2	73	19·4
North „ ...	6760	244	36·1	96	14·2
West „ ...	3915	115	29·3	72	18·4
Whole district ...	14440	499	34·5	241	16·7

There were 31 deaths in the Horsham Workhouse; of these 9 belonged to the urban district, and 22 belonged to the rural district. These 31 deaths have been distributed among the several parishes whence each individual came.

In each parish the deaths were thus distributed—

Horsham 46, Lower Beeding 19, Ifield 21, Rusper 10, Warnham 13, West Grinstead 24, Shipley 22, Nuthurst 14, Slinfold 12, Itchingfield 7, Rudgwick 24, Billingshurst 29.

The infant mortality was at the rate of 100 deaths to 1000 births, as compared with 109, 79, and 79 in the three preceding years.

In England and Wales during 1879 the infant mortality, as measured by the proportion of deaths under one year of age to 1000 births, was 136 per 1000 children born, against 158, 146,

136 and 153 in the four preceding years. In each sub-district the proportion was as follows—

	Births.	Deaths under 1 year.	Ratio of Deaths to 1000 births.
South sub-district ...	140	14	100
North „ ...	244	19	78
West „ ...	115	17	148
Whole district ..	499	50	100

In each quarter the births and deaths were as follows —

	Births.			Deaths.		
	M.	F.	Total.	M.	F.	Total.
1st Quarter ...	65	53	118	35	37	72
2nd „ ...	69	54	123	36	32	68
3rd „ ...	71	56	127	30	25	55
4th „ ...	76	55	131	27	19	46
Total ...	281	218	499	128	113	241

The long-continued cold of the winter and spring proved very fatal to young and old, while the cool summer and fine autumn were favourable to them.

	Under one year.	1—5.	5—15.	15—25.	25—60.	60 and Upwards.	Total.
1st Quarter ...	19	10	3	5	12	23	72
2nd „ ...	17	5	3	7	12	24	68
3rd „ ...	9	4	2	6	17	17	55
4th „ ...	5	3	4	3	6	25	46
Total ...	50	22	12	21	47	89	241

There were three deaths returned as "not certified" in the south sub-district out of a total of 73; male, 5 hours, and female, 2 weeks, premature birth; male, 7 years, bronchitis.

In the west sub-district there were two deaths returned as "not certified" out of a total of 72; male, 45 years, consumption, and female, one week, convulsions.

Inquests were held upon fourteen cases; of these three were cases of suicide, three were drowned accidentally, four were cases of fractured limbs, two of burns, one from suffocation, and one man was kicked by a horse.

In this district about 4·8 per cent. of the children born are illegitimate In the south sub-district out of 140 births no child died during the year that was born out of wedlock.

In the west sub-district out of 115 births one child born out of wedlock died during the year—male, two months, bronchitis, certified.

There have been no cases during the year in which it was found necessary to condemn meat or any other article of food which had been exposed for sale.

The slaughterhouses and bakehouses have been inspected at intervals, and they have been kept in a cleanly state. There is

at the present time no common lodging-house in the district.

No proceedings were taken before the magistrates during the year.

The returns of cases of sickness among paupers show a diminution, there being 675 new cases, against 1000, 937, 644, and 783 in the four preceding years.

The following table shows the death-rate at the present time in this district, as compared with the two last decades; it shows also the relation between the deaths from three important groups of disorders during the same periods.—

Per 100,000 persons living.	1851—60.	1861—70.	1876—79.
All ages, both sexes—			
General Death-rate	1765	1766	1515
Zymotic Death-rate	388	300	118
Phthisis Death-rate	261	212	176
Lung Disease Death rate	246	326	270
15 *to* 55 *years*—			
Phthisis Death-rate	440 mean. 518 female.	340 mean 428 female	303 mean 307 female
Lung Disease Death rate.....	54 male. 56 female.	97 male 69 female	106 male 43 female
Under 1 year.....	(?)	10716	10211
Under 5 years	3901	3921	3110

It will thus be seen that the general death-rate has been distinctly reduced, and that the mortality from *zymotic* disorders, or those which are looked upon as more or less preventible, has been reduced to one-third of what used to be met with in former years.

The deaths from *consumption* are very much diminished, nor is this diminution affected by any rise in the lung-disease rate, showing that the improvement is not due merely to change of nomenclature.

It is much less common now than it used to be to enter the deaths of young children as due to phthisis, and this change would affect materially the death-rate from consumption at all ages. The fallacy is avoided by examining the deaths from 15 to 55 years of age, and the above table shows that at this period of life there has been a great reduction in the rate.

This improvement may be due to various causes, but the precise part which each plays it is not easy to determine. The poor are now better housed, and they wear better and warmer clothing; the food they eat is of a better quality, while the

increased intercourse arising from the extension of railways has given rise to less intermarriage. At the same time there has been going on much agricultural drainage, so that in many parts there is much less boggy and wet land than formerly; such drainage, however, would not affect the dwellings of the poor to any extent.

A similar gradual improvement is to be noticed in the mortality of young children. It is much more accurate to estimate the per centage of deaths occurring under one year and under five years, than it is to classify the causes of death at these ages. Teething, convulsions, marasmus, debility, and such like terms are used variously in different districts, and no advantage whatever is gained by inquiring too closely into the cause of death, when such cause is represented by a word which has no definite or scientific meaning. But there can be no such confusion if the age-test be adopted. Whenever the infant mortality is high, there is always some social or sanitary defect which requires investigation.

Table III. shows the deaths that occurred in each parish during the past four years, and also the death-rate from three important groups of disorders. The table is here summarised :—

	Mean annual death-rate per 1000.	Mean annual death-rate per 100,000 from— Zymotic disease.	Phthisis.	Lung disease.
South sub-district ...	15·2	154	170	244
North „ ...	14·2	108	190	261
West „ ...	16·8	109	154	308
Whole district	15·1	118	176	270

Those who live in the Horsham rural district dwell chiefly on the Weald Clay; the urban district of Horsham, which is on the Tunbridge Wells sands, is not included.

Lower Beeding and Star Row, a small hamlet in Horsham parish, are on the Tunbridge Wells sands, and scattered about are a few isolated cottages, but the great mass of the people are on the Weald Clay. The surface of the Clay is gently undulated and many parts lie low and wet.

The north sub-district has the highest phthisis rate; the west sub-district has the lowest. In the former some of the people (2000 out of 6750) are on the pervious sandy beds, while in the latter the population is wholly on the impervious Clay.

Compared with the Steyning rural district, in which the soils are quite different, it will be seen that the phthisis rate for all ages are nearly equal (176 and 179). In Dr. Buchanan's report, where the phthisis rate at ages 15-55 were taken, Steyning appeared 11th and Horsham was the 52nd on a list of 58 unions, placed in the order of their mortality for consumption.

The comparison between Horsham and Steyning may be thus shown in more recent years :—

	1851-60		1861-70		1876-79	
	Phthisis Death-rate 15—55,		Phthisis Death-rate 15—55.		Phthisis Death-rate 15—55.	
	Mean of two sexes	Females	Mean of two sexes	Females	Mean of two sexes	Females
Steyning	295	304	288	309	264	229
Horsham	440	518	340	428	303	307
	Phthisis & Lung disease Death-rate		Phthisis & Lung disease Death-rate		Phthisis & Lung disease Death-rate	
	Mean of two sexes	Females	Mean of two sexes	Females	Mean of two sexes	Females
Steyning	363	354	351	348	320	268
Horsham	495	575	423	497	378	350

This summary shows that consumption is more common in Horsham Union than in the Steyning Union when the rates are compared at those ages at which consumption is most prevalent, while the difference is almost lost when the mortality from this disorder at all ages is contrasted. The table further shows the great diminution in the number of those dying from this disorder.

Ifield.—The question of the drainage of Ifield was frequently discussed during the year. The state of the drainage here was first complained of in 1873. A special drainage district was formed of the lighting district of Ifield (Horsham Union) and of the parish of Crawley (East Grinstead Union).

A joint committee of the two sanitary authorities was formed, and the first meeting was held on July 13th, 1874. Mr Wallis surveyed the district and laid before the committee a scheme of drainage, which was estimated to cost £4200, but this sum was afterwards reduced to £2500. Negotiations were entered into for the purchase of land, and the scheme of the engineer received the approval of the Local Government Board.

There were 13 acres of land which could be had for the purpose of irrigation at a cost of £150 per acre. The cost of the land, timber, incidental expenses, &c., was put down at £2000, which, added to the cost of sewerage amounted to £4500.

The Local Government Board gave their sanction to a proposal for borrowing £3500. For some time the matter remained in abeyance and nothing further was done.

Ifield and Crawley are adjacent parishes, but in different

sanitary districts. The main road divides these parishes, so that houses on each side the street are in different areas.

To the south of the railway station several new houses have been built of late years, and form what is called New Town. A little further to the west are some groups of houses which form what is called West Green.

A number of houses are scattered along the high road at irregular intervals, so that there is a long area for drainage with comparatively few houses upon it.

The road runs from north to south, and the surface of the ground is such that all sewage must flow to the east. At present New Town causes the greatest nuisance as the sewage from this area flows into an open ditch along the Worth road, and here it stagnates and forms a nuisance. Other parts of the village contribute similar nuisances, but not to so great an extent. The bad state of the ditch is recognised by every one, but it was thought by the ratepayers that the proposed scheme of drainage by Mr Wallis was more than could be borne by the district.

Mr Wallis proposed to carry the sewage from New Town, West Green and the rest of Ifield and Crawley, to a point to the north-east of the village, where there are some meadows which, in very wet weather, are said to be under water. The main sewer was to be 1,650 yards in length and to run along the main street of the place; the whole length of the sewer was to be two miles 446 yards. Yet for this great length of drain there was no provision made for flushing, and as there are no water-works in the place, it is not possible to thoroughly flush such a length of sewer by trusting merely to the quantity of water poured down by each householder. The experience of places like Steyning is distinctly against it (Report V., pp. 5-7). The object of a drain or sewer is to convey foul fluids or solids from a dwelling to a distant point where it can be properly treated, and for this purpose two things at least are essential: 1—There must be an ample water supply so as to remove the contents quickly away before decomposition sets in; and, 2—There should be numerous openings in the sewer by which fresh air can enter and replace the foul air.

But when there is no public water supply the sewers and drains are never properly emptied, and their contents stagnate, decompose, and evolve foul gases which pass up through the street ventilators and cause a nuisance. To hide filth away underground in a long sewer is to make matters worse than before. It was seen, therefore, that unless waterworks could be erected the scheme would not answer; while if a public water supply were carried out, the cost would amount altogether to perhaps £7000 or £8000. But the rateable value of the district is only £2350, and therefore much opposition was raised by the ratepayers to the scheme.

A special meeting of the Horsham Sanitary Authority was

held on April 23rd, 1879, to form a parochial committee for the contributory place of the special drainage district of Ifield.

Three members of the sanitary authority and three ratepayers of Ifield formed the committee, and it was arranged that they should meet a similar committee formed by the East Grinstead sanitary authority, but the latter body appointed a much larger committee, so that the voting power was not equal. On May 22nd, 1879, this joint parochial committee met, and it was resolved that pending negotiations for the purchase of land a scheme be prepared for filtering the sewage in Worth-lane. This scheme would deal with only one part, but certainly the greatest part of the general nuisance. On June 19th the joint committee again met, and Mr Kelsey, of Horley, brought forward a scheme by which a filtering bed should be prepared upon ¼ acre of ground, and that the effluent should then flow into an adjoining stream. The estimate for this scheme was £325. It was finally determined that Mr Kelsey's plan be sent for approval to the Local Government Board. Difficulties afterwards arose from the nuisance being created in one parish and carried into another, so the result was that Crawley will henceforth be joined to the Horsham union, and the nuisance can in the future be dealt with by one authority. Meanwhile the death-rate for the past five years gives an average of 13·7 per 1000, and the zymotic death-rate is 1·09 per 1000, as against 15·1 and 1·18 for the rest of the district.

Star Row.—This is a hamlet to the north-east of Horsham and it was formed into a special drainage district in the year 1874. A drain was then made along the south side of the houses, and it ended in a subsiding tank, whence the effluent flowed into a small stream. Nothing but dirty house water was meant to pass down this drain. More recently, some houses on the north side of the road have been erected, and the Sanitary Authority have determined to make a new drain on the north side, which will finally join the old drain. The tank at the outfall is a long way from any houses, and it causes no nuisance, but very little sewage seems to pass into it.

Star Row is badly off for water, but it might be supplied from the adjacent town of Horsham. At present there is one good well in the street, which is fed by a spring, and most people go there for drinking water. As the hamlet is at present small in extent, the people have not to go more than 200 yards to obtain this good water. The Union Workhouse is close to Star Row, but there does not seem to be more water here than what is required for the due supply of the inmates.

In several cases the water supply to cottages has been improved. There are many lonely houses in the district, where the inmates go to a dipping hole, or to the nearest brook for their water. Both these sources are liable to be fouled, and so when the water was bad or unfit to drink, the owners were called

upon to make wells and to give a proper supply. This was done in all the cases reported without proceedings having to be taken in one of them. In most parts of this district water can be obtained at a depth of from ten to twenty-five feet, and a well of that depth can be made at a cost not exceeding that contemplated by the Public Health Water Act, 1878. The Sanitary Authority on July 9, 1879, resolved, "That bills be printed calling attention to the provisions of section 6 of the Public Health Water Act, 1871, and that they be posted where notices are usually posted in the district of the Authority, and also be kept by the Inspector of Nuisances, so that he may serve them on the owners of new houses." Whenever a new house is now built, the owner has to apply for a certificate, stating that he has provided within a reasonable distance an available supply of wholesome pure water before the house can be occupied.

The years 1876 and 1879 had a high death-rate from zymotic disorders, while 1877 was very free from any epidemic.

Measles was prevalent every year, and this disease seems to be more fatal here than in some other districts; this question could only be decided if the number of children attacked were known, but at present there are no data from which the mortality can be calculated.

In Steyning with a larger population there were only 4 deaths in five years, while here there were 13 deaths in four years; there is no reason to believe that this common disorder of childhood breaks out more frequently in one district than another.

Scarlatina appears every year, but it has not prevailed in an epidemic form since 1876; here and there small outbreaks occur which are generally spread from schools.

Diphtheria appears occasionally in the district, but it does not remain persistent here as in some of the northern parts of Petworth and Midhurst.

Typhus fever may be said to be unknown in country districts, unless a case be imported; curiously enough, the expression, "typhus" is made use of by some medical men to denote a certain state or condition preceding death which may have no connection with the specific fever.

Enteric fever has generally been confined to very small areas and it is mostly dependent on local sanitary defects, as bad or defective drains and polluted water.

HORSHAM RURAL SANITARY DISTRICT.

TABLE I.—Showing the Deaths and Death-rate at various groups of ages in the four years 1876-79.

YEAR.	At all Ages.	Under 1 year.	1 and under 5.	Total under 5 yrs.	5 and under 15.	15 and under 25.	25 and under 60.	60 and upwards.
1876	243	49	20	69	12	13	56	93
1877	182	36	9	45	8	12	39	78
1878	204	39	17	56	9	6	56	77
1879	241	50	22	72	12	21	47	87
TOTAL.....	870	174	68	242	41	52	198	337
Mean	217·5	43·5	17·0	60·5	10·2	13·0	49·5	84·2
Population in 1877 in each group.	14355	426	1519	1945	3456	2481	5330	1143
Death-rate per 1000 persons living in each group	15·1	102·0	11·2	31·1	2·9	5.2	9·3	73·7
Death rate in England at corresponding ages in the 10 years 1861—70.	22·4	180·4	36·3	68·3	6·3	7·2	14·0	67·7

TABLE II.—Showing the Deaths in each of the Four Years, 1876-79 from Zymotic Diseases.

YEAR.	Small Pox	Measles	Scarlatina	Diphtheria	Croup (not "spasmodic")	Whooping Cough	Cont. Fvrs. Typhus	Cont. Fvrs. Enteric or Typhoid	Cont. Fvrs. Other or doubtful	Diarrhœa and Dysentery	Cholera	Rheumatic Fever	Erysipelas	Pyæmia	Puerperal Fever	TOTAL	Rate per 1000 living
1876	1	6	4	...	...	9	...	3	1	3	...	...	...	...	...	27	1·9
1877	...	2	...	...	...	...	...	3	...	1	...	...	...	...	...	6	0·4
1878	...	2	1	1	...	2	...	1	...	5	...	1	...	...	1	14	0·9
1879	...	3	1	3	...	8	...	1	1	3	...	...	...	...	1	21	1·4
Tl.	1	13	6	4	...	19	...	8	2	12	...	1	...	...	2	68	1·1

Table III. showing the Deaths and Death-rate from all causes

PARISH.	Mean Population in 1876—9.	Mean Death-rate per 1000 all ages	DEATHS FROM ALL CAUSES in				
			1876	1877	1878	1879	—
Horsham	2625	15·6	51	37	30	46	—
Lower Beeding	1306	12·8	21	12	15	19	—
Ifield	1840	13·7	24	35	21	21	—
Rusper	605	12·4	11	4	5	10	—
Warnham	1008	14·4	20	15	10	13	—
West Grinstead	1310	14·1	16	14	20	24	—
Shipley	1107	14·7	11	10	22	22	—
Nuthurst	660	18·6	15	10	10	14	—
Slinfold	820	14·3	14	6	15	12	—
Itchingfield	377	16·5	7	2	9	7	—
Rudgwick	1070	21·2	25	18	24	24	—
Billingshurst	1627	15·2	28	19	23	29	—
WHOLE DISTRICT	14,355	15·1	243	182	204	241	—

ANITARY DISTRICT, 1876-79.

ıd from various causes in each Parish in the four years.

Total eaths in the Years.	Mean Annual Number of Deaths.	TOTAL DEATHS in the Four Years from			Mean Annual DEATH-RATE per 100,000 living from		
		Zymotic Disease,	Phthisis.	Lung Disease.	Zymotic Disease.	Phthisis.	Lung Disease.
164	—	12	17	35	114	162	333
67	—	6	7	11	115	134	210
101	—	8	17	16	109	231	217
30	—	1	8	4	41	330	165
58	—	5	7	11	124	173	263
74	—	7	4	12	138	76	229
65	—	5	6	9	113	138	203
49	—	7	11	9	265	416	341
47	—	2	4	10	61	122	305
25	—	4	—	6	265	—	398
91	—	3	7	16	70	163	374
99	—	8	13	16	123	200	246
870		68	101	155	118	176	270

HORSHAM RURAL SANITARY DISTRICT.

TABLE IV.—Showing the Total Deaths from Zymotic Diseases in each Parish in the 4 years 1876-79 in the Horsham R.S.D.

PARISH	Small Pox	Measles	Scarlatina	Diphtheria	Croup (not "spasmodic")	Whooping Cough	Cont. Fevers: Typhus	Cont. Fevers: Enteric or Typhoid	Cont. Fevers: Other or doubtful	Diarrhœa and Dysentery	Cholera	Rheumatic Fever	Erysipelas	Pyæmia	Puerperal Fever	TOTAL
Horsham.....	1	2	3	2	...	...	...	...	1	2	...	...	...	...	1	12
Lower Beeding ...	...	...	...	...	...	4	...	...	...	2	...	...	...	...	...	6
Ifield	...	1	1	...	...	3	...	2	...	...	...	1	...	...	...	7
Rusper	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	5
Warnham	...	1	...	...	...	2	...	...	...	2	...	...	...	...	...	5
West Grinstead ..	...	1	...	1	...	...	...	3	...	2	...	...	...	...	...	7
Shipley	...	1	...	1	...	3	...	...	...	...	...	...	...	...	...	5
Nuthurst	...	3	...	...	...	1	...	1	...	1	...	1	...	...	1	7
Slinfold	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	2
Itchingfield	...	...	2	...	...	2	...	...	...	...	...	...	...	...	...	4
Rudgwick	...	1	...	...	...	1	...	1	...	...	...	...	...	...	...	3
Billingshurst	...	2	...	...	...	3	...	1	...	2	...	...	...	...	...	8
TOTAL	1	13	6	4	...	19	...	8	2	12	...	1	...	...	2	68

(A) TABLE OF DEATHS during the year 1879, in the Rural Sanitary District of HORSHAM; classified according to Diseases, Ages, and Localities, and showing also the Population of such Localities, and the Births therein during the year.

	Population at all ages.			Mortality from all causes at subjoined ages							Mortality from subjoined causes, distinguishing deaths in Persons under five Years of Age.																					
																		Cont. Fevers														
(I) Names of Localities (being Parishes Groups of Parishes, Townships, Wards, or other areas of known population) adopted for the purpose of these Statistics; public institutions being excluded.	Census 1871	Estimated to middle of 1879	Registered Births.	At all ages	Under 1 year	1 and under 5	5 and under 15	15 and under 25	25 and under 60	60 and upwards		Small Pox	Measles	Scarlatina	Diphtheria	Croup (not "spasmodic")	Whooping Cough	Typhus	Enteric or Typhoid	Other or doubtful	Diarrhœa and Dysentery	Cholera	Rheumatic Fever	Erysipelas	Pyæmia	Puerperal Fever	Ague	Phthisis	Bronchitis, Pneumonia and Pleurisy	Heart Disease	Injuries	Other Diseases
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
South Horsham Sub-District ...	3945	3765	140	73	14	5	5	5	16	28	Under 5		1		1		1												6			10
											5 upwds				2						1					1		10	13	4	3	20
North Horsham Sub-District ...	6367	6760	244	96	19	12	4	11	19	31	Under 5		1	1			2				2								9		2	14
											5 upwds																	13	5	7	6	34
West Horsham Sub-District	3819	3915	115	72	17	5	3	5	12	30	Under 5		1				5												5			11
											5 upwds								1	1								7	11	6	3	21
											Under 5																					
											5 upwds																					
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											Under 5																					
											5 upwds																					
											Under 5																					
											5 upwds																					
(II.) Public Institutions.											Under 5																					
											5 upwds																					
Totals	14131	14440	499	241	50	22	12	21	47	89	Under 5		3	1	1		8				2								20		2	35
											5 upwds				2				1	1	1					1		30	29	17	12	75

(B) TABLE OF MORTALITY AND SICKNESS in the Rural Sanitary District of HORSHAM, 1879, for the twelve calendar months ending December 31st, 1879.

NAME OF DISEASE.	(A) Deaths (among all classes) registered as having occurred in the District or Division.				(B) Sickness and Deaths among Paupers.				(C) If there be be any Hospital or other Public Medical Institution in or near the District or Division, the subjoined columns are to be filled up.					
	Total deaths registered as above; including those enter'd in cols. IV. and V.		Deaths of Persons who have come into the District or Division with their fatal illness upon them.		Sickness and Deaths among out-door paupers; and among any paupers who belong to the District or Division, and have been removed into the Workhouse on account of illness; whether the Workhouse be within or without the District or Division.				IN-PATIENTS. Sickness and Deaths in such Institutions among inmates WHO BELONG TO the District or Division.				OUT-PATIENTS. New cases of Sickness among persons WHO BELONG to the District or Division, and are Out-Patients of Hospitals or Patients of Dispensaries.	
					New Cases		Deaths		New Cases		Deaths			
	Aged under 5 years	Aged 5 yrs. and upwds.	Aged under 5 years	Aged 5 yrs. and upwds.	Aged under 5 years.	Aged 5 yrs. and upwds.	Aged under 5 years.	Aged 5 yrs. and upwds.	Aged under 5 years.	Aged 5 yrs. and upwds.	Aged under 5 years.	Aged 5 yrs. and upwds.	Aged under 5 years.	Aged 5 yrs. and upwds.
I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	XII.	XIII.	XIV.	XV.
Small-Pox	...	..	...	...	...	...	...	...	...	...	...	...	...	...
Measles	3	...	...	...	6	14	1	...	...	...	...	...	...	...
Scarlatina	1	...	...	...	1	3	...	...	...	...	...	...	...	...
Diphtheria	1	2	...	...	...	3	...	1	...	...	...	...	...	...
Croup (not "spasmodic")	...	...	...	...	...	...	...	...	...	...	...	...	...	..
Whooping Cough	8	...	...	...	12	5	1	...	...	...	...	...	...	...
"Continu'd" Fevors. — Typhus	...	...	...	...	...	1	...	...	...	...	...	...	...	...
"Continu'd" Fevors. — Enteric	...	1	...	..	...	2	..	...	...	...	..	...	...	...
"Continu'd" Fevors. — Of other or doubtful sorts	...	1	...	...	..	2	...	1	...	...	...	...	...	...
Diarrhœa and Dysentery	2	1	...	...	6	9	1	...	...	...	...	...	...	...
Cholera	...	..	...	...	...	...	...	..	...	...	...	...	...	...
Rheumatic Fever	...	...	...	...	...	4	...	...	...	...	...	...	...	...
Erysipelas	...	...	...	...	...	3	...	...	...	...	...	...	...	...
Pyæmia	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal Fever	...	1	...	...	...	...	...	...	...	...	...	...	...	...
Ague	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Phthisis	...	30	...	...	...	19	...	3	...	...	...	...	...	...
Bronchitis, Pneumonia & Pleurisy	20	29	...	...	16	50	...	8	...	...	...	...	...	...
Heart-Disease	...	17	...	...	...	4	...	2	...	...	...	...	...	...
Injuries	2	12	...	...	3	24	...	2	...	...	...	...	...	...
DISEASES NOT NAMED ABOVE	35	75	...	...	63	425	5	21	...	...	...	...	...	...
Total	72	169			107	568	8	38						

RURAL SANITARY DISTRICT OF PETWORTH.

Population (1871), 10,138. Area in Acres, 44,747
No. of Houses (1871), 2,008.

During the year 1879 the births of 298 children and the deaths of 160 persons were registered; in the year 1878 there were 280 births and 184 deaths. Of the births 142 were male, and 156 were female; of the deaths, 88 were male, and 72 were female.

Estimating the population in the middle of the year at 10,200, the birth-rate was 29·2, and the death-rate was 15·7 per 1000 persons living. Throughout England and Wales the birth-rate during the year was 33·5, and the death-rate was 20·7 per 1000 of the population estimated to be living in the middle of the year.

The deaths from *zymotic*, or catching disorders, were 13 in number, or about 1 in 12 of the total number of deaths. These thirteen deaths include eight from diphtheria, one from whooping-cough, two from enteric fever, one from diarrhœa, and one from rheumatic fever.

The rate of mortality from these disorders was 1·2 per 1000 persons living, against 1·0, 1·3, 0·8, and 1·6 in the four preceding years.

The birth-rate and death-rate in Petworth, and in the rest of the district are here shown:—

	Birth-rate.	Death-rate.
North sub-district ...	27·3	15·6
Petworth Parish ...	30·7	15·6
South sub-district ...	30·6	15·9
Whole District ...	29·2	15·7

In each parish the deaths were thus distributed:—Wisborough Green 25, Northchapel 13, Kirdford 31, Petworth 51, Egdean 0, Fittleworth 15, Stopham 2, Coates 2, Burton 1, Duncton 4, Barlavington 2, Sutton 4, Bignor 1, Bury 9.

There were nine deaths in Petworth Workhouse, and three deaths in Kirdford Workhouse; these have been distributed amongst the several parishes whence each inmate came.

There were no deaths in Wisborough Green Workhouse, nor in the Petworth Cottage Hospital.

The gaol at Petworth is now closed.

The infant mortality, as measured by the number of deaths

under one year of age to the total number of births in the year was as follows:—

	Births.	Deaths under 1 year.	Ratio of Deaths to 1000 births.
North sub-district ...	121	8	66
Petworth Parish ..	100	11	110
Rest of South sub-district	77	9	117
Whole District ...	298	28	94

In the three preceding years the ratio was respectively 106, 64, and 110.

Throughout England and Wales there were during the year 136 deaths of infants under one year of age to every 1000 infants born, against 158, 146, 136, and 153 in the four preceding years.

Infant mortality varies much from year to year in rural districts, but a comparison of the rates during the past four years shows that the mean rate is low, and that the years 1877 and 1879 with their cool summers and absence of any great epidemic were very favourable to infant life.

	1876.	1877.	1878.	1879.	Mean.
North sub-district	111	51	121	66	86
Petworth Parish	109	67	111	110	99
Rest of South sub-district	61	84	88	117	89
Whole district ...	106	64	110	94	91

The death-rate in this district under five years of age is also very low, being 29·0 per 1000 living at those ages, against an average rate of 68·3 per 1000 throughout England and Wales.

In each quarter the births and deaths were as follows:—

	Births.			Deaths.		
	M.	F.	Total.	M.	F.	Total.
1st Quarter ...	37	32	69	31	20	51
2nd „ ...	37	47	84	24	23	47
3rd „ ...	32	24	56	12	14	26
4th „ ...	36	53	89	21	15	36
Total ...	142	156	298	88	72	160

The mild summer and fine autumn compensated for the severity of the winter and spring; the early part of the year was very fatal to young and old.

	Under one year.	1—5.	5—15.	15—25.	25—60.	60 and Upwards.	Total.
1st Quarter ...	13	5	5	3	8	17	51
2nd „ ...	8	3	5	2	8	21	47
3rd „ ...	3	3	2	4	3	11	26
4th „ ...	4	2	1	2	8	19	36
Total ...	28	13	13	11	27	68	160

The 28 infantile deaths included 1 case of whooping-cough, 1 of diarrhœa, 1 of diphtheria, 2 of convulsions, 9 of lung disease, 8 from debility or atrophy, while 6 were prematurely born.

Two women died from childbirth—each from hœmorrhage during confinement; in one case an inquest was held.

In ten other cases inquests were also held; of these two were cases of drowning and one of fracture; one man fell from a rick, one was accidentally shot, and one child was accidentally killed, while four others died from natural causes.

There were six deaths returned as "not certified" in the district, out of a total of 160, and in each case no inquest was held: male, 80 years, probably heart disease; female, 14 months, probably inflammation of lungs; male, 7 months, convulsions; female, 7 months, convulsions; male, 15 months, convulsions; and female, 13 hours, debility.

In this district about 4·6 of the children born are illegitimate. In the north sub-district out of 121 births no children born out of wedlock died during the year.

In the south sub-district out of 177 births two infants born out of wedlock died during the year, and in each case the cause of death was certified—female, 14 days, cancrum oris; male, 16 days, atrophy.

No case arose during the year in which it was necessary to condemn meat or any other article of food.

A few cases of overcrowding were dealt with during the year, and in several cases the cottages of the poor were cleansed and limewashed, under Sec. 46 of the Public Health Act, 1875.

The bakehouses and slaughter houses have been inspected at intervals, and they have been kept in a cleanly state.

There is one common lodging house in the district, and this is kept in a proper state.

No proceedings were taken before the magistrates during the year.

The returns of cases of sickness among paupers show that there were 702 new cases during the year; in the four preceding years there were respectively 1140, 866, 812 and 826 new cases.

Table III. shows the deaths that occurred in each parish during the past five years, and also the death-rate from three important groups of disorders. The table is here summarized:—

	Mean annual death-rate per 1000.	Mean annual death-rate per 100,000 from— Zymotic disease.	Phthisis.	Lung disease
Petworth Parish ...	17·2	147	247	275
North Sub-district ...	15·9	95	136	294
Rest of South Sub-district	15·4	135	95	271
Whole district	16·2	121	163	282

The town of Petworth stands on rising ground on the Hythe

beds of the lower greensand; the ground is high and dry, and slopes to the north and south.

The north sub-district consists of three large parishes on the Weald clay, and the land here is cold and wet. The lung-disease rate here is high, but the phthisis rate is much lower than in Petworth, where the surface drainage allows rain water to flow off more readily.

The south sub-district (excluding Petworth), consists of ten parishes, of which Duncton, Barlavington, Sutton, Bignor, and Bury, are on the upper greensand, on rising ground to the north of the South Downs, while Fittleworth, Egdean, Burton, Coates, and Stopham are chiefly on the Sandgate and Hythe beds of the lower greensand. Very few people dwell on the gault.

The phthisis death-rate on the more pervious greensand is certainly less than on the Weald clay, except in the case of Petworth, where consumption seems common.

Compared with the Steyning and Horsham rural districts, it will be noticed that the phthisis rate at all ages is rather lower in this union, although a larger proportion of the population dwell on the impervious Weald clay.

The following summary shows these points in a tabular form :

	1851-60		1861-70		1875-79	
	Phthisis Death-rate 15—55.		Phthisis Death-rate 15—55.		Phthisis Death-rate 15—55.	
	Mean of two sexes	Females	Mean of two sexes	Females	Mean of two sexes	Females
Steyning	295	304	288	309	264	229
Horsham	440	518	340	428	303	307
Petworth	462	509	397	490	286	297
	Phthisis + Lung disease Death-rate		Phthisis + Lung disease Death-rate		Phthisis + Lung disease Death-rate	
	Mean of two sexes	Females	Mean of two sexes	Females	Mean of two sexes	Females
Steyning	363	354	351	348	320	268
Horsham	495	575	423	497	378	350
Petworth	512	553	484	580	386	407

By adding together the consumption and lung disease rates, the difference disappears, and the result shows that at all ages lung affections are more common on wet soils than on drier formations. It is very likely that much that what was formerly called consumption is now included under the heading of lung disease.

By comparing next those deaths which take place from these

two disorders at the ages of 15—55 years, a similar result is seen, and the rate at that time of life is higher than in Steyning, and nearly the same as in Horsham.

But although the relative position of these districts may remain the same, yet in each there is to be noticed a marked reduction in the absolute amount of consumption, which is not to be accounted for by a mere change of nomenclature.

The following table shows the death-rate at the present time in the district, as compared with the two last decades; it shows also the relation between the deaths from three important groups of disorders during the same periods:—

Per 100,000 persons living.	1851—60.	1861—70.	1875—79.
All ages, both sexes—			
General Death-rate	1855	1933	1624
Zymotic Death-rate	271	319	121
Phthisis Death-rate	283	226	163
Lung Disease Death rate	211 } 494	230 } 456	282 } 445
15 *to* 55 *years*—			
Phthisis Death-rate	462 mean. 509 female.	397 mean 490 female	286 mean 297 female
Lung Disease Death rate	55 male. 44 female.	83 male 90 female	89 male 110 female
Under 1 year	(?)	11885	9319
Under 5 years	3937	4081	2910

The above summary shows that there has been a distinct reduction in the general death-rate; that the fatal cases from zymotic diseases are much less than in former years, and that the mortality amongst children is markedly less than in the two previous decades.

Drainage.—Considerable progress was made during the year with regard to the question of draining Petworth. A committee had been formed in the summer of 1878, of which Mr Ingram was chairman.

In October, 1878, Mr Easton drew up some plans by which the sewage was to be conveyed to a place called Soane Farm, to the south of the town. This scheme was afterwards amended, so that it was finally settled that there should be two outfalls, one to the north and one to the south of the town.

On January 31st, 1879, a Local Government Board enquiry was held by Mr Arnold Taylor for the purpose of forming a special drainage district, and for a loan of £2,500.

Subject to various conditions, agreements were drawn up between the sanitary authority and the owners and occupiers of the land on which the sewage will be dealt with.

On April 22nd, 1879, the Local Government Board gave their sanction to the constitution of a special drainage district.

By the end of the year all preliminary matters had been settled, and the drainage of Petworth will probably be completed during the ensuing year.

Water Supply.—Nothing has yet been settled about the water supply of Petworth, but it is understood that Lord Leconfield will deal with this question as soon as the sewage works are completed. It would have been much more desirable that the public water supply should have been given first, because there does not seem as yet any adequate means for flushing the drains and sewers when they are constructed. Since Petworth stands upon rising ground it will be very easy for sewer gas to ascend unless care be taken that all the sewage is carried away to the outfalls before decomposition sets in. This can only be done by means of plenty of water, and if this point be neglected evil results are sure to follow. Such was the case in Steyning in 1878 (Report V. pp. 5, 6.)

Table IV. shows the prevalance of *zymotic* disorders in each parish in this district. The most prominent feature in this table is the large death-rate from *diphtheria*. This disease is not common all over the district, but it is especially to be met with in Petworth, Wisborough Green, North Chapel and Kirdford in the north of the district and in Bury and Sutton in the south of the district.

If any one will take a geological map of West Sussex (Sheet 9 of the geological Survey) and look at the north part of this district, it will be seen that the cases of diphtheria prevail chiefly on the Weald Clay and on the Upper Greensand. In another part of this report the connection of soil with the prevalence of this disorder will be discussed.

Typhus fever has not appeared here, and *enteric fever* has been chiefly confined to Petworth, and it appears to have been dependent on defective drains in nearly every case.

Scarlatina and measels seldom prove fatal in this district, and the mortality from whooping-cough and diarrhœa is also low.

PETWORTH RURAL SANITARY DISTRICT.

TABLE I.—Showing the Deaths and Death-rate at various groups of ages in the five years 1875-79.

YEAR.	At all Ages.	Under 1 year.	1 and under 5.	Total under 5 yrs.	5 and under 15.	15 and under 25.	25 and under 60.	60 and upwards.
1875	178	26	17	43	11	12	33	79
1876	157	26	19	45	2	7	41	62
1877	148	19	5	24	11	7	40	66
1878	184	31	11	42	11	11	37	83
1879	160	28	13	41	13	11	27	68
TOTAL	827	130	65	195	48	48	178	358
Mean	165·4	26	13	39·0	9·6	9·6	35·6	71·6
Population in 1877 in each group.	10185	279	1061	1340	2374	1784	3685	1002
Death-rate per 1000 persons living in each group	16·2	93·2	12·2	29·1	4·0	5·4	9·6	71·4
Death rate in England at corresponding ages in the 10 years 1861—70.	22·4	180·4	36·3	68·3	6·3	7·2	14·0	6 77

TABLE II.—Showing the Deaths in each of the Five Years, 1875-79 from Zymotic Diseases.

YEAR.	Small Pox	Measles	Scarlatina	Diphtheria	Croup (not "spasmodic")	Whooping Cough	Cont. Fvrs.			Diarrhœa and Dysentery	Cholera	Rheumatic Fever	Erysipelas	Pyæmia	Puerperal Fever	TOTAL	Rate per 1000 living
							Typhus	Enteric or Typhoid	Other or doubtful								
1875	...	...	1	5	...	2	...	...	...	1	...	...	1	...	...	10	1·0
1876	...	...	3	4	...	2	...	...	...	1	...	1	...	...	3	14	1·3
1877	1	1	...	5	...	0	...	...	...	1	...	...	...	...	...	8	0·8
1878	...	...	...	6	...	3	...	3	...	3	...	...	...	1	1	17	1·6
1879	...	...	...	8	...	1	...	2	...	1	...	1	...	...	...	13	1·2
Tl.	1	1	4	28	...	8	...	5	...	7	...	2	1	1	4	62	1·21

Table III. showing the Deaths and Death-rate from all causes

PARISH.	Population in 1877.	Mean Death-rate per 1000 all ages	DEATHS FROM ALL CAUSES in				
			1875	1876	1877	1878	1879
Wisborough Green ...	1804	15·4	37	32	23	22	25
Northchapel	812	16·7	12	8	21	14	13
Kirdford	1792	16·0	32	18	27	36	31
Petworth	3268	17·2	59	62	48	62	51
Egdean	80	10·0	2	...	...	2	...
Fittleworth	700	18·0	12	11	10	15	15
Stopham	152	11·8	1	1	2	3	2
Coates.....	100	18·0	3	1	1	2	2
Burton	75	8·0	...	...	...	2	1
Duncton	265	10·6	3	2	2	3	4
Barlavington	132	7·5	1	1	...	1	2
Sutton..... ..	315	17·1	6	5	7	5	4
Bignor	140	20·0	2	3	2	6	1
Bury	550	16·7	8	13	5	11	9
WHOLE DISTRICT	10,185	16·2	178	157	148	184	160

ANITARY DISTRICT, 1875-79.

nd from various causes in each Parish in the five years.

Total Deaths in the 5 Years.	Mean Annual Number of Deaths.	TOTAL DEATHS in the Five Years from			Mean Annual DEATH-RATE per 100,000 living from		
		Zymotic Disease,	Phthisis.	Lung Disease.	Zymotic Disease.	Phthisis.	Lung Disease.
139	27·8	6	15	30	66	166	332
68	13·6	7	8	7	172	197	172
144	82·8	8	7	28	88	78	312
282	56·4	24	41	45	147	247	275
4	·8	...	...	...	...	...	...
63	12·6	5	6	12	143	171	342
9	1·8	...	...	1	...	...	131
9	1·8	4	1	1	800	200	200
3	·6	...	...	...	...	...	...
14	2·8	...	...	4	...	...	301
5	1·0	1	...	2	151	...	303
27	5·4	1	1	7	63	63	444
14	2·8	...	...	3	...	...	428
46	9·2	6	4	4	218	145	145
827	165·4	62	83	144	121	163	282

PETWORTH RURAL SANITARY DISTRICT.

TABLE IV.—Showing the Total Deaths from Zymotic Diseases in each Parish in the 5 years 1875-79 in the Petworth R.S.D.

PARISH	Small Pox	Measles	Scarlatina	Diphtheria	Croup (not "spasmodic")	Whooping Cough	Cont. Fevers: Typhus	Cont. Fevers: Enteric or Typhoid	Cont. Fevers: Other or doubtful	Diarrhœa and Dysentery	Cholera	Rheumatic Fever	Erysipelas	Pyæmia	Puerperal Fever	TOTAL
Wisborough Green	...	...	...	4	...	1	...	...	...	1	...	...	...	...	...	6
Northchapel	...	...	...	6	...	1	...	...	...	...	...	...	...	...	...	7
Kirdford	...	...	...	5	...	1	...	...	...	...	...	...	...	...	2	8
Petworth	1	1	2	7	...	5	...	3	...	2	...	...	1	...	2	24
Egdean	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Fittleworth	...	...	...	1	...	...	...	...	...	2	...	1	...	1	...	5
Stopham	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Coates	...	...	1	...	...	...	...	2	...	...	...	1	...	...	...	4
Burton	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Duncton	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Barlavington	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1
Sutton	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1
Bignor	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Bury	...	...	1	5	...	...	...	...	...	...	...	...	...	...	...	6
TOTAL	1	1	4	28	...	8	...	5	...	7	...	2	1	1	4	62

(A) TABLE OF DEATHS during the year 1879, in the Rural Sanitary District of PETWORTH; classified according to Diseases, Ages, and Localities, and showing also the Population of such Localities, and the Births therein during the year.

(I) Names of Localities (being Parishes Groups of Parishes, Townships, Wards, or other areas of known population) adopted for the purpose of these Statistics; public institutions being excluded.	POPULATION AT ALL AGES.		Registered Births.	MORTALITY FROM ALL CAUSES AT SUBJOINED AGES							MORTALITY FROM SUBJOINED CAUSES, DISTINGUISHING DEATHS IN PERSONS UNDER FIVE YEARS OF AGE.																					
																		Cont. Fevers														
1	Census 1871 2	Estimated to middle of 1879 3	4	At all ages 5	Under 1 year 6	1 and under 5 7	5 and under 15 8	15 and under 25 9	25 and under 60 10	60 and upwards 11	12	Small Pox 13	Measles 14	Scarlatina 15	Diphtheria 16	Croup (not "spasmodic") 17	Whooping Cough 18	Typhus 19	Enteric or Typhoid 20	Other or doubtful 21	Diarrhœa and Dysentery 22	Cholera 23	Rheumatic Fever 24	Erysipelas 25	Pyæmia 26	Puerperal Fever 27	Ague 28	Phthisis 29	Bronchitis, Pneumonia and Pleurisy 30	Heart Disease 31	Injuries 32	Other Diseases 33
NORTH SUB-DISTRICT	4345	4428	121	69	8	4	7	6	13	31	Under 5																		6			6
											5 upwds				3													7	11	9	3	24
PETWORTH PARISH	3304	3258	100	51	11	4	3	1	9	23	Under 5				1		1		1										5			7
											5 upwds				2													7	3	3	2	19
REST OF SOUTH SUB-DISTRICT	2489	2514	77	40	9	5	3	4	5	14	Under 5				2						1								3			8
											5 upwds								1				1					3	7	3	1	10
											Under 5																					
											5 upwds																					
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											5 upwds																					
											Under 5																					
											5 upwds																					
											Under 5																					
											5 upwds																					
(II.) Public Institutions.											Under 5																					
											5 upwds																					
TOTALS	10138	10200	290	160	28	13	13	11	27	68	Under 5				3		1		1		1								14			21
											5 upwds				5				1				1					17	21	15	6	53

(B) TABLE OF MORTALITY AND SICKNESS in the Rural Sanitary District of PETWORTH, 1879, for the twelve calendar months ending December 31st, 1879.

NAME OF DISEASE.	(A) Deaths (among all classes) registered as having occurred in the District or Division.				(B) Sickness and Deaths among Paupers.				(C) If there be be any Hospital or other Public Medical Institution in or near the District or Division, the subjoined columns are to be filled up.					
	Total deaths registered as above; including those enter'd in cols. IV. and V.		Deaths of Persons who have come into the District or Division with their fatal illness upon them.		Sickness and Deaths among out-door paupers; and among any paupers who belong to the District or Division, and have been removed into the Workhouse on account of illness; whether the Workhouse be within or without the District or Division.				IN-PATIENTS. Sickness and Deaths in such Institutions among inmates WHO BELONG TO the District or Division.				OUT-PATIENTS. New cases of Sickness among persons WHO BELONG to the District or Division, and are Out-Patients of Hospitals orPatients of Dispensaries.	
					New Cases		Deaths		New Cases		Deaths			
	Aged under 5 years	Aged 5 yrs. and upwds.	Aged under 5 years	Aged 5 yrs. and upwds.	Aged under 5 years.	Aged 5 yrs. and upwds.	Aged under 5 years.	Aged 5 yrs. and upwds.	Aged under 5 years.	Aged 5 yrs. and upwds.	Aged under 5 years.	Aged 5 yrs. and upwds.	Aged under 5 years.	Aged 5 yrs. and upwds.
I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	XII.	XIII.	XIV.	XV.
Small-Pox	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Measles	...	...	...	...	5	1	...	...	...	...	...	...	...	...
Scarlatina	..	...	...	...	...	..	...	...	...	...	...	..	...	...
Diphtheria	3	5	...	...	1	18	...	...	...	...	...	...	...	...
Croup (not "spasmodic")	...	...	...	...	...	...	...	...	...	...	...	...	...	..
Whooping Cough	1	...	...	...	13	8	...	...	...	...	...	...	...	...
"Continu'd" Fevers. Typhus	...	...	...	...	...	...	...	...	...	...	...	...	...	...
"Continu'd" Fevers. Enteric	1	1	...	..	...	1	..	...	...	...	..	...	...	...
"Continu'd" Fevers. Of other or doubtful sorts	...	...	...	...	..	3	...	...	...	...	...	...	...	...
Diarrhœa and Dysentery	1	...	...	..	3	13	...	...	...	...	...	...	...	...
Cholera	...	..	...	...	...	...	...	..	...	...	...	...	...	...
Rheumatic Fever	...	1	...	...	...	1	...	1	...	...	...	...	...	...
Erysipelas	...	...	...	...	...	4	...	...	...	...	...	...	...	...
Pyæmia	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ague	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Phthisis	...	17	...	...	...	11	...	2	...	...	...	...	...	...
Bronchitis, Pneumonia & Pleurisy	14	21	...	...	9	30	3	1	...	...	...	...	...	...
Heart-Disease	...	15	...	...	...	3	...	3	...	...	...	...	...	...
Injuries	...	6	...	...	3	13	...	..	...	1	...	...	...	...
DISEASES NOT NAMED ABOVE	21	53	...	...	52	510	...	11	1	9	...	...	...	...
Total	41	119			86	616	3	18	1	10				

RURAL SANITARY DISTRICT OF THAKEHAM.

Population (1871), 8,422. Area in Acres, 38,784
No. of Houses (1871), 1,705.

During the year 1879 the births of 275 children, and the deaths of 127 persons were registered; in the year 1878 there were 257 births and 141 deaths. Of the births, 141 were male, and 134 were female; of the deaths, 73 were male, and 54 were female.

Estimating the population in the middle of the year at 8,745, the birth-rate was 31·4, and the death-rate was 14·5 per 1000 persons living.

Throughout England and Wales the birth-rate during the year was 35·1, and the death-rate was 21·0 per 1000 of the population estimated to be living in the middle of the year.

The deaths from *zymotic*, or catching disorders, were 9 in number, or 1 in 14 of the total number of deaths. In the 4 previous years there were respectively 23, 20, 8 and 9 deaths from this group of disorders.

The nine deaths included one from diphtheria, three from whooping-cough, one from enteric fever, two from diarrhœa, one from rheumatic fever, and one from pyæmia. The rate of mortality from these disorders was 1·0 per 1000 against a rate of 2·6, 2·2, 0·9, and 1·0 in the four preceding years.

The following table shows the birth-rate and the death-rate in the more important parishes, and in the rest of the district:—

	Births.	Birth-rate.	Deaths.	Death-rate.
Pulborough Parish	55	29·6	30	16·1
Rest of Pulborough Sub-district	73	32·7	36	16·1
Storrington Parish	42	33·6	18	14·4
Rest of Washington Sub-district	105	30·8	43	12·6
Whole District ...	275	31·4	127	14·5

In each quarter the births and deaths were as follows:—

	Births.			Deaths.		
	M.	F.	Total.	M.	F.	Total.
1st Quarter ...	36	39	75	25	12	37
2nd „ ...	33	34	67	19	17	36
3rd „ ...	37	26	63	12	7	19
4th „ ...	35	35	70	17	18	35
Total ...	141	134	275	73	54	127

The influence of a cold winter on aged people may be seen by examining the deaths at various ages in each quarter :—

	Under one year.	1—5.	5—15.	15—25.	25—60.	60 and Upwards.	Total.
1st Quarter ...	2	2	1	2	3	27	37
2nd „ ...	9	0	0	2	8	17	36
3rd „ ...	1	2	2	1	4	9	19
4th „ ...	8	3	1	1	8	14	35
Year ...	20	7	4	6	23	67	127

In each parish the deaths were thus distributed :— North Stoke, 0; Amberley, 14; Greatham, 0; Hardham, 3; Cold Waltham, 7; Wiggonholt, 0; Pulborough, 30; West Chiltington, 12; Parham, 2; Storrington, 18; Sullington, 1; Thakeham, 8; Warminghurst, 1; Ashington, 4; Wiston, 4; Washington, 12; Findon, 11.

There were 13 deaths in the Thakeham Workhouse, and these have been distributed among the several parishes whence each individual came.

The infant mortality in this district, as measured by the deaths of children under one year of age to every 1000 children born, is here shown :—

	Births.	Deaths under 1 year.	Ratio of Deaths to 1000 births.
Pulborough Parish ...	55	3	54
Rest of Pulborough Sub-district	73	11	151
Storrington Parish ...	42	3	71
Rest of Washington Sub-district	105	3	29
Whole District ...	275	20	72

The rate of 72 per 1000 is less than usual; it was 99, 56, and 101 in the three preceding years.

Throughout England and Wales during the past year, the rate of infant mortality was 136 per 1000, against 158, 146, 136, and 153 in the four preceding years.

Table I. gives the death-rate in this district at various groups of ages, and it shows that the mortality under five years of age is very low.

In eight cases inquests were held; of these one was a case of suicide, two infants were accidentally suffocated, one was run over accidentally, one man died from exposure to cold, while three were returned as due to natural causes.

There were fifteen deaths returned as "not certified" in this district out of a total of 127 :—male, 12 years, rupture of a blood vessel; male, four days, debility; male, 79 years, age; female, 48 years, disease of heart and dropsy; male, 69 years,

probably disease of heart; male, 65 years, apoplectic fit; male, 74 years, sudden death; in the remaining eight cases an inquest was held.

In this district about 5 per cent. of the children born are illegitimate.

In the Washington sub-district, out of 147 births, one child born out of wedlock died during the year—male, seven months, convulsions.

In the Pulborough sub-district the returns do not give any information on this point

No case arose during the year in which it was necessary to condemn meat or any other article of food.

A few cases of overcrowding were dealt with during the year, and in several cases the houses of the poor were cleansed and limewashed even when illness did not exist. This was done under Section 46 of the Public Health Act, 1875, and in country districts it is a most useful clause.

The best time of year for this purpose is the spring, as then the children can be sent out of doors, and the walls and ceilings quickly dry.

The bakehouses and slaughterhouses have been inspected at intervals, and they have been kept in a cleanly state.

There is no common lodging house in the district.

No proceedings were taken before the magistrates during the year.

The following table shows the death-rate during the past five years in this district, as compared with the rate in the two last decades; it shows also the relation between the deaths from three important groups of disorders during the same periods:—

Per 100,000 persons living.	1851—60.	1861—70.	1875—79.
All ages, both sexes— General Death-rate	1824	1649	1551
Zymotic Death-rate	402	292	159
Phthisis Death-rate	285	221	122
Lung Disease Death rate	189 } 474	197 } 418	290 } 412
15 *to* 55 *years*—			
Phthisis Death-rate.	454 mean. 560 female.	356 mean 379 female	208 mean 200 female
Lung Disease Death rate	41 male. 45 female.	77 male 45 female	90 male 100 female
Under 1 year	(?)	9763	9319
Under 5 years	3497	3317	2974

This summary shows that the general death-rate has been reduced, and that the deaths from *zymotic* disorders, or those which are looked upon as more or less preventible, are very much less numerous now than in previous years.

The *consumption* rate is low, but this diminution is met, to some extent, by an increase in the lung-disease rate; when the comparison is made at the ages of 15 to 55, the improvement is distinctly marked.

This district is very healthy for children, and this is shown not only by the low death-rate in early life, but also by examining the returns of sickness among paupers.

Table III. shows the deaths that occurred in each parish during the past five years. The table is here summarised:—

	Mean annual death-rate per 1000.	Mean annual death-rate per 100,000 from— Zymotic disease.	Phthisis.	Lung disease.
Pulborough Parish ...	16·6	172	150	215
Rest of Pulborough Sub-district	17·3	218	118	281
Storrington Parish ...	13·6	81	178	356
Rest of Washington Sub-district	14·3	142	89	314
Whole district	15·5	159	122	290

The people in this district dwell chiefly on pervious soils; the greater number are upon the sandy beds of the lower greensand, while those who live in Pulborough are upon the clayey beds of the same formation, although here also the slope of the ground is such that all surface water flows off readily. Amberley, Sullington and Washington are mainly on the upper greensand beds, and the situation is high and dry. Findon and North Stoke are the only two villages on the chalk, but there are numerous isolated cottages scattered over the Downs. There is no village on the Weald clay, although upon this soil there are several farms and cottages. On the whole, the district may be called dry, as compared with the Horsham Union, where the greater part of the area is of Weald clay. Thakeham district may be compared geologically with the South Sub-district of Petworth (excluding Petworth parish), while Horsham may be contrasted with the Northern Sub-district of Petworth.

Area.	Soil.	Mean annual death-rate per 1000.	Mean annual death rate per 100,000 from— Zymotic disease.	Phthisis.	Lung disease.
Petworth South Sub-district (excluding Petworth Parish	chiefly sandy; pervious, dry	15·4	135	95	271
Thakeham Rural District		15·5	159	122	290
Horsham Rural District	chiefly clay; cold and wet	15·1	118	176	270
Petworth North Sub-district		15·9	95	136	294

By thus taking areas which are of similar geological formation it will be seen that consumption is more common at the present time, at all ages, upon impervious than upon pervious soils; that lung diseases are not much affected thereby; that while the general death-rate is nearly equal yet that the zymotic rate varies considerably, being lowest on the Weald clay, while it is highest among those dwelling on sandy soils.

This, too, is noticeable, that while *diphtheria* is common in Horsham and North Petworth, where, in fact, it seems seldom absent for any long period, yet in the Thakeham Union it is very rare, and it has never prevailed in an epidemic manner.

During the past five years there were only three deaths in Thakeham district, as compared with twenty-eight in Petworth district; nor was this all the difference, for whereas in the latter area there were a great many adults and children attacked who afterwards recovered, yet in the Thakeham district the cases seemed to arise from local defects in drainage, and no other persons were attacked.

Another point to be noticed is the more frequent fatality of *whooping-cough* in Thakeham district than elsewhere; cases of *diarrhœa* are also more common here than in Petworth or Horsham.

Thus it is that the general death-rate is nearly equal in these areas; if consumption and diphtheria are less frequent in the one, whooping-cough and diarrhœa are more common in the other.

The gain in one direction is balanced by the loss in another.

Some of the parishes in this district have very small populations, so that unless they are grouped together in sub-districts the true death-rate cannot be ascertained. In places like North Stoke and Wiggonholt, the deaths of one or two persons in a year makes an enormous difference in the rate; it must not be imagined that North Stoke, with a rate of 23·1, is more unhealthy than Wiggonholt, with a rate of only 5·1. With such small populations, a period of five years is not long enough to obtain a true estimate; probably in the next five years their position would be reversed. By grouping such places together, and taking an area similar in every respect, but with a larger population, these inequalities disappear.

Storrington is an instance of a place of considerable size with a very low death-rate. The death-rate here is affected by a large school, which somewhat lowers the mortality, as compared with other places in the district. The reason is, that in Storrington there are living a number of youths, whose natural death-rate is very low. An examination of Table I. will show how the rate varies at different groups of ages, and therefore if in any given place there be an undue proportion of young and

healthy lives, the general death-rate will appear very good, not perhaps because it is more healthy than other places, but because the result is affected by the population being differently distributed according to age.

There are no manufactures carried on in this district, and the people are mainly engaged in agriculture.

THAKEHAM RURAL SANITARY DISTRICT.

TABLE I.—Showing the Deaths and Death-rate at various groups of ages in the five years 1875-79.

YEAR.	At all Ages.	Under 1 year.	1 and under 5.	Total under 5 yrs.	5 and under 15.	15 and under 25.	25 and under 60.	60 and upwards.
1875	169	27	28	55	4	7	32	71
1876	128	28	7	35	4	9	25	55
1877	107	16	10	26	4	5	27	45
1878	141	26	8	34	4	9	28	66
1879	127	20	7	27	4	6	23	67
TOTAL	672	117	60	177	20	36	135	304
Mean	134·4	23·4	12·0	35·4	4·0	7·2	27·0	60·8
Population in 1877 in each group.	8664	239	951	1190	2118	1393	3151	812
Death-rate per 1000 persons living in each group	15·5	97·9	12·6	29·7	1·9	5·1	8·6	74·9
Death rate in England at corresponding ages in the 10 years 1861—70.	22·4	180·4	36·3	68·3	6·3	7·2	14·0	67·7

TABLE II.—Showing the Deaths in each of the Five Years, 1875-79 from Zymotic Diseases.

YEAR.	Small Pox	Measles	Scarlatina	Diphtheria	Croup (not "spasmodic")	Whooping Cough	Cont. Fvrs.		Diarrhœa and Dysentery	Cholera	Rheumatic Fever	Erysipelas	Pyæmia	Puerperal Fever	TOTAL	Rate per 1000 living
							Typhus	Enteric or Typhoid								
1875	...	...	1	2	...	10	...	...	9	...	1	...	...	...	23	2·6
1876	...	1	4	...	...	9	1	...	4	...	...	1	...	...	20	2·2
1877	...	...	6	...	...	1	...	...	...	...	...	...	1	...	8	0·9
1878	...	2	...	...	...	2	...	1	2	...	...	2	...	...	9	1·0
1879	...	...	...	1	...	3	...	1	2	...	1	...	1	...	9	1·0
Tl.	...	3	11	3	...	25	1	2	...	17	...	2	3	2	...	69	1·59

Table III. showing the Deaths and Death-rate from all cause

PARISH.	Population in 1877.	Mean Death-rate per 1000 all ages	DEATHS FROM ALL CAUSES in				
			1875	1876	1877	1878	1879
North Stoke	95	23·1	5	1	13	4	...
Amberley	725	20·9	20	18	12	12	14
Greatham	60	6·5	1	...	17	...	...
Hardham	125	16·0	2	2	...	3	3
Cold Waltham ...	430	15·3	6	7	5	8	7
Wiggonholt	39	5·1	1	...	...	...	...
Pulborough	1858	16·6	37	30	24	34	30
West Chiltington ...	730	15·9	15	13	12	6	12
Parham	65	21·5	1	..	...	4	2
Storrington	1234	13·6	16	13	11	26	18
Sullington	250	17·6	11	2	4	4	1
Thakeham	675	10·9	8	9	5	7	8
Warminghurst ..	160	17·5	3	3	6	1	1
Ashington	300	18·6	10	1	7	6	4
Wiston	310	11·6	4	3	3	4	4
Washington	908	14·7	16	13	13	13	12
Findon	700	14·0	13	13	3	9	11
WHOLE DISTRICT	8,664	15·5	169	128	107	141	123

ANITARY DISTRICT, 1875-79.

d from various causes in each Parish in the five years.

Total aths in the Years.	Mean Annual Number of Deaths.	TOTAL DEATHS in the Five Years from			Mean Annual DEATH-RATE per 100,000 living from		
		Zymotic Disease,	Phthisis.	Lung Disease.	Zymotic Disease.	Phthisis.	Lung Disease.
11	2·2	3	...	2	631	...	421
76	15·2	13	5	12	358	138	331
2	·4	...	...	1	...	...	333
10	2·0	...	...	2	...	...	320
33	6·6	2	6	7	93	280	325
1	·2	...	...	...	...	...	...
55	31·0	16	14	20	172	150	215
58	11·6	6	2	7	164	55	191
7	1·4	...	..	2	...	...	615
84	16·8	5	11	22	81	178	356
22	4·4	9	...	4	720	...	320
37	7·4	3	1	6	88	30	177
14	2·8	4	1	...	500	125	...
28	5·6	...	2	14	...	133	933
18	3·6	1	1	3	64	64	193
67	13·4	4	4	14	88	88	308
49	9·8	3	6	10	85	171	286
72	134·4	69	53	126	159	122	290

THAKEHAM RURAL SANITARY DISTRICT.

TABLE IV.—Showing the Total Deaths from Zymotic Diseases in each Parish in the 5 years 1875-79 in the Thakeham R.S.D.

PARISH	Small Pox	Measles	Scarlatina	Diphtheria	Croup (not "spasmodic")	Whooping Cough	Cont. Fevers: Typhus	Cont. Fevers: Enteric or Typhoid	Cont. Fevers: Other or doubtful	Diarrhœa and Dysentery	Cholera	Rheumatic Fever	Erysipelas	Pyæmia	Puerperal Fever	Total
North Stoke	...	...	...	...	...	2	...	...	...	1	...	...	...	...	...	3
Amberley	...	2	...	2	...	5	...	...	...	2	...	1	...	1	...	13
Greatham	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Hardham	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cold Waltham	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	2
Wiggonholt	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Pulborough	...	1	3	...	...	6	...	1	...	4	...	...	1	...	...	16
West Chiltington	...	...	...	...	...	2	...	1	...	2	...	...	...	1	...	6
Parham	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Storrington	...	...	...	...	...	3	...	...	...	1	...	...	1	...	...	5
Sullington	...	...	3	...	...	2	1	...	...	3	...	...	1	...	...	9
Thakeham	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	3
W[illia]ringhurst	...	...	3	...	...	...	...	...	...	1	...	...	...	...	...	4
Ashington	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Wiston	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1
Washington	...	...	1	...	...	2	...	...	...	...	...	1	...	...	...	4
Findon	...	...	1	1	...	...	...	...	...	1	...	...	...	...	...	3
TOTAL	...	3	11	3	...	25	1	2	...	17	...	2	3	2	...	69

(A) TABLE OF DEATHS during the year 1879, in the Rural Sanitary District of THAKEHAM; classified according to Diseases, Ages, and Localities, and showing also the Population of such Localities, and the Births therein during the year.

(I) Names of Localities (being Parishes Groups of Parishes, Townships, Wards, or other areas of known population) adopted for the purpose of these Statistics; public institutions being excluded.	Population at all ages.		Registered Births.	Mortality from all causes at subjoined ages							Mortality from subjoined causes, distinguishing deaths in Persons under five Years of Age.							Cont. Fevers														
	Census 1871	Estimated to middle of 1879		At all ages	Under 1 year	1 and under 5	5 and under 15	15 and under 25	25 and under 60	60 and upwards		Small Pox	Measles	Scarlatina	Diphtheria	Croup (not "spasmodic")	Whooping Cough	Typhus	Enteric or Typhoid	Other or doubtful	Diarrhœa and Dysentery	Cholera	Rheumatic Fever	Erysipelas	Pyæmia	Puerperal Fever	Ague	Phthisis	Bronchitis, Pneumonia and Pleurisy	Heart Disease	Injuries	Other Diseases
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
PULBOROUGH PARISH	1855	1860	55	30	3	3	—	1	6	17	Under 5										1											5
											5 upwds												1					3	5	1		14
REST OF PULBOROUGH SUB-DISTRICT	2124	2230	73	36	11	—	1	1	7	16	Under 5						2												2		1	6
											5 upwds								1						1			1	1	8	1	12
STORRINGTON PARISH	1184	1250	42	18	3	2	1	3	4	5	Under 5						1												2			2
											5 upwds																	3	4	2		4
REST OF WASHINGTON SUB-DISTRICT	3259	3405	105	43	3	2	2	1	6	29	Under 5																		1		1	3
											5 upwds				1						1							2	11	5	1	17
											Under 5																					
											5 upwds																					
											Under 5																					
											5 upwds																					
											Under 5																					
											5 upwds																					
											Under 5																					
											5 upwds																					
(II.) Public Institutions.											Under 5																					
											5 upwds																					
TOTALS	8422	8745	275	127	20	7	4	6	23	67	Under 5						3				1								5		2	16
											5 upwds				1				1		1		1		1			9	21	16	2	47

(B) TABLE OF MORTALITY AND SICKNESS in the Rural Sanitary District of THAKEHAM, 1879, for the twelve calendar months ending December 31st, 1879.

NAME OF DISEASE.	(A) Deaths (among all classes) registered as having occurred in the District or Division.				(B) Sickness and Deaths among Paupers.				(C) If there be be any Hospital or other Public Medical Institution in or near the District or Division, the subjoined columns are to be filled up.					
	Total deaths registered as above; including those enter'd in cols. IV. and V.		Deaths of Persons who have come into the District or Division with their fatal illness upon them.		Sickness and Deaths among out-door paupers; and among any paupers who belong to the District or Division, and have been removed into the Workhouse on account of illness; whether the Workhouse be within or without the District or Division.				IN-PATIENTS. Sickness and Deaths in such Institutions among inmates WHO BELONG TO the District or Division.				OUT-PATIENTS. New cases of Sickness among persons WHO BELONG to the District or Division, and are Out-Patients of Hospitals or Patients of Dispensaries.	
					New Cases		Deaths		New Cases		Deaths			
	Aged under 5 years	Aged 5 yrs. and upwds.	Aged under 5 years	Aged 5 yrs. and upwds.	Aged under 5 years.	Aged 5 yrs. and upwds.	Aged under 5 years.	Aged 5 yrs. and upwds.	Aged under 5 years.	Aged 5 yrs. and upwds.	Aged under 5 years.	Aged 5 yrs. and upwds.	Aged under 5 years.	Aged 5 yrs. and upwds.
I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	XII.	XIII.	XIV.	XV.
Small-Pox	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Measles	..	...	...	...	...	...	...	...	...	...	...	...	...	...
Scarlatina	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diphtheria	...	1	...	...	...	...	...	...	...	...	...	...	...	...
Croup (not "spasmodic")	...	...	...	...	...	...	...	...	...	...	...	...	...	..
Whooping Cough	3	...	...	...	1	...	...	...	...	...	...	...	...	...
"Continu'd" Fevers. Typhus	...	...	...	...	...	...	...	...	...	...	...	...	...	...
"Continu'd" Fevers. Enteric	...	1	...	..	...	...	..	...	...	...	..	...	...	...
"Continu'd" Fevers. Of other or doubtful sorts	...	...	...	...	..	...	...	...	...	...	...	...	...	...
Diarrhœa and Dysentery	1	1	...	...	...	2	...	...	...	...	...	...	...	...
Cholera	...	..	...	...	...	...	...	..	...	...	...	...	...	...
Rheumatic Fever	...	1	...	...	...	..	...	...	...	...	...	...	...	...
Erysipelas	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Pyæmia	...	1	...	...	...	1	...	1	...	...	...	...	...	...
Puerperal Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ague	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Phthisis	...	9	...	...	...	5	...	5	...	...	...	...	...	...
Bronchitis, Pneumonia & Pleurisy	5	21	...	...	2	13	...	11	...	...	...	...	...	...
Heart-Disease	...	16	...	...	...	3	...	1	...	...	...	...	...	...
Injuries	2	2	...	...	1	7	...	...	...	...	...	...	...	...
DISEASES NOT NAMED ABOVE	16	47	...	...	3	132	...	14	...	...	...	...	...	...
Total	27	100			7	163		32						

RURAL SANITARY DISTRICT OF EAST PRESTON.

Population (1871), 6,937. Area in Acres, 30,320.
No. of Houses (1871), 1,330.

During the year 1879 the births of 234 children, and the deaths of 125 persons were registeted; in the year 1878 there were 235 births and 131 deaths. Of the births, 118 were male, and 116 were female; of the deaths, 72 were male and 53 were female.

Estimating the population in the middle of the year at 7745, the birth-rate was 30·2, and the death-rate was 16·1 per 1000 persons living.

Throughout England and Wales the birth-rate during the past year was 35·1, and the death-rate was 21·0 per 1000 persons living.

There was but one death from *zymotic*, or catching disorders. The district was very free from measles, scarlatina, whooping-cough, diarrhœa, or any preventible disorder. The only fatal case was one registered as typhoid fever; there was no apparent cause for the disease; the person attacked was a farmer of middle age, who dwelt in a healthy house; there were no other cases in the house or neighbourhood.

The rate of mortality from this class of disorders was equal to 0·1 per 1000 persons living, against 2·6, 1·4, and 1·8 in the three preceding years.

In each sub-district the birth-rate and death-rate were as follows:—

	Births.	Birth-rate.	Deaths.	Death-rate.
Worthing Sub-district.....	77	26·3	47	16·1
Littlehampton „	118	35·0	48	14·2
Arundel „	39	26·8	30	20·6
Whole District..... ..	234	30·2	125	16·1

The infant mortality, as measured by the number of deaths under one year to the total number of births in the year, is here shown for each sub-district.—

	Births.	Deaths under 1 year.	Ratio of Deaths to 1000 Births
Worthing Sub-district	77	8	103
Littlehampton „	118	9	77
Arundel „	39	7	179
Whole District	234	24	102

The rate of infant mortality was equal to 86, 81, and 93 in the three preceding years.

Throughout England and Wales the rate of infant mortality during the past year was equal to 136 per 1000, against 158, 146, 136 and 153 in the four preceding years.

The 24 infantile deaths included 3 from convulsions, 7 from lung disease, 11 from debility, and 3 from premature birth.

In each parish the deaths were as follows:—Broadwater 16, Heene 3, West Tarring 9, Clapham 4, Durrington 4, Goring 8, Ferring 2, Kingston 1, East Preston 2, Angmering 17, Leominster 26, Rustington 2, Climping 1, Ford 3, Tortington 5, Poling 8, Patching 3, Burpham 4, South Stoke 3, Houghton 4.

There were 23 deaths in East Preston Workhouse, and these were distributed among the several parishes whence each inmate came.

In each quarter the births and deaths were thus distributed:

	Births.			Deaths.		
	M.	F.	TOTAL.	M.	F.	TOTAL
First Quarter	22	31	53	22	21	43
Second „	22	32	54	12	6	18
Third „	26	19	45	19	8	27
Fourth „	48	34	82	19	18	37
Year	118	116	234	72	53	125

The winter was unusually severe along the South Coast, and proved very fatal to persons at advanced life. This is more clearly seen by comparing the ages at death in each quarter.

	Under 1 year.	1—5.	5—15.	15—25.	25—60.	60 and upwards.	Tl.
First Quarter	7	2	1	3	8	22	43
Second „	3	3	—	1	5	6	18
Third „	8	—	2	3	9	5	27
Fourth „	6	1	2	1	5	22	37
Year ...	24	6	5	8	27	55	125

The drainage of West Tarring will probably be carried out in the ensuing year.

Broadwater, West Tarring and Wick are places which are not well supplied with water, as the wells are very liable to pollution from impure surface water. In each case there would be no difficulty in laying on water from Worthing or Littlehampton if those towns could spare any from their present supply.

There was one death returned as "not certified" out of a total of 125—male, one hour, premature birth.

Inquests were held in nine cases; of these, two were cases of accidental drowning, one of shock after fracture, one of a railway accident, one of accidental burning, one of heart disease, and three from natural causes.

In this district about 4·8 per cent. of the children born are illegitimate.

In the Worthing sub-district, out of 77 births no child died during the year that was born out of wedlock.

In the Littlehampton sub-district, out of 118 births, one infant born out of wedlock died during the year—male, 8 months, congestion of the lungs, certified.

In the Arundel sub-district, out of 39 births, one illegitimate infant died during the year — female, 6 months, inanition, certified.

There have been no cases during the year in which it was necessary to condemn meat or any other article of food which had been exposed for sale.

The slaughterhouses and bakehouses have been inspected at intervals, and they have been kept in a cleanly state.

There is at the present time no common lodging house in the district.

No proceedings were taken before the magistrates during the year.

There were 379 new cases of sickness among paupers, against 359, 473, 374 and 605 in the four preceding years.

The following table shows the death-rate at the present time in this district, as compared with the two last decades ; it shows also the relation between the deaths from three important groups of disorders during the same period :—

Per 100,000 persons living.	1851—60.	1861—70.	1875—79.
All ages, both sexes—			
General Death-rate	1790	1822	1707
Zymotic Death-rate	335	309	135
Phthisis Death-rate	297	259	183
Lung Disease Death rate	166 } 463	221 } 480	214 } 397
15 *to* 55 *years*—			
Phthisis Death-rate	419 mean. 445 female.	417 mean 393 female	274 mean 315 female
Lung Disease Death rate	58 male. 34 female.	74 male 48 female	84 male 59 female
Under 1 year	(?)	11022	9626
Under 5 years	3967	4086	3320

The reduction in the various rates is thus made clear, and the improvement is very marked in the case of the *zymotic* disorders. For young children the district is very healthy.

Table III. shows the deaths that occurred in each parish during the past five years, and also the death-rate from three groups of disorders. The table is here summarised :—

	Mean annual Death-rate per 1000.	Mean annual Death-rate per 100,000 persons living from— Zymotic Disease.	Phthisis.	Lung Disease.
Worthing Sub-district	18·7	135	207	288
Littlehampton „	15·7	137	188	194
Arundel „	17·0	128	112	241
Whole district	17·07	135	183	214

Most of the villages in the Worthing and Littlehampton sub-districts are on nearly level ground between the South Downs and the sea ; they are sheltered from the north and east winds but they are exposed to the south-west gales, which are very frequent in this part and often carry with them much moisture. The soil is chiefly of a loamy nature and adapted for making bricks. In very wet weather the water in the wells may rise within one or two feet of the surface, but, as a rule, water can be obtained at a depth of from 20ft. to 25ft.

The villages in the Arundel sub-district are, however, on more elevated ground, and built chiefly on the chalk. This part is higher and drier than other parts of the district, and the consumption rate is lower here than elsewhere.

Geologically, this district may be compared with the Shoreham sub-district of the Steyning Union, with which it has many points in common as regards situation, soil and sub-soil water.

They are here compared with two cold and wet districts on the Weald clay which are not sheltered from the north and east winds.

	Mean annual Death-rate per 1000.	Mean annual Death-rate per 100,000 persons living from— Zymotic Disease.	Phthisis.	Lung Disease.
East Preston Rural District	17.0	135	183	214
Shoreham Sub-district Steyning Union	13·7	174	149	209
Horsham Rural District	15·1	118	176	270
Petworth North Sub-district	15·9	95	136	294

Lung diseases seem more common in the cold and exposed districts, but the consumption rates show no marked difference. The greater frequency of zymotic disease along the coast probably arises from the proximity of large towns and the constant inter-communication, while in the north of the county many of the parishes are very isolated, and there is no railway near them.

EAST PRESTON RURAL SANITARY DISTRICT.

TABLE I.—Showing the Deaths and Death-rate at various groups of ages in the five years 1875-79.

YEAR.	At all Ages.	Under 1 year.	1 and under 5.	Total under 5 yrs.	5 and under 15.	15 and under 25.	25 and under 60.	60 and upwards.
1875	131	19	8	27	9	8	40	47
1876	126	19	24	43	8	7	28	40
1877	131	19	9	28	15	9	27	52
1878	131	22	18	40	3	6	27	55
1879	125	24	6	30	5	8	27	55
TOTAL	644	103	65	168	40	38	149	249
Mean	128·8	20·6	13·0	33·6	8·0	7·6	29·8	49·8
Population in 1877 in each group.	7543	214	798	1012	1750	1219	2868	694
Death-rate per 1000 persons living in each group	17·07	96·2	16·3	33·2	4·6	6.2	10·4	71·8
Death rate in England at corresponding ages in the 10 years 1861—70.	22·4	180·4	36·3	68·3	6·3	7·2	14·0	67·7

TABLE II.—Showing the Deaths in each of the Five Years, 1875-79 from Zymotic Diseases.

YEAR.	Small Pox	Measles	Scarlatina	Diphtheria	Croup (not "spasmodic")	Whooping Cough	Cont. Fvrs.			Diarrhœa and Dysentery	Cholera	Rheumatic Fever	Erysipelas	Pyæmia	Puerperal Fever	TOTAL	Rate per 1000 living
							Typhus	Enteric or Typhoid	Other or doubtful								
1875	...	...	...	...	...	1	...	1	...	3	...	...	...	...	...	5	0·8
1876	...	3	4	2	...	2	...	1	1	6	...	...	1	...	...	20	2·6
1877	...	...	4	2	...	...	...	3	...	2	...	...	...	...	...	11	1·4
1878	...	...	2	2	...	4	...	1	...	5	...	...	...	...	...	14	1·8
1879	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	0·1
Tl.	...	3	10	6	...	7	...	7	1	16	...	...	1	...	...	51	1·35

Table III. showing the Deaths and Death-rate from all causes

PARISH.	Population in 1877.	Mean Death-rate per 1000 all ages	DEATHS FROM ALL CAUSES in				
			1875	1876	1877	1878	1879
Broadwater	815	17·6	25	12	9	10	16
Heene...	200	28·0	5	8	10	2	3
West Tarring... ...	680	16·5	8	12	10	17	9
Clapham	248	16·9	4	7	1	5	4
Durrington	165	25·4	2	5	7	3	4
Goring	415	24·1	6	11	11	14	8
Ferring	275	10·1	3	4	2	3	2
Kingston	30	6·6	...	...	...	...	1
East Preston	335	13·1	7	8	1	4	2
Angmering	1040	15·0	15	11	17	18	17
Leominster	1420	17·9	24	23	27	27	26
Rustington	350	16·0	6	3	10	7	2
Climping	250	10·4	6	2	2	2	1
Ford	75	18·6	2	...	2	...	3
Tortington	160	17·5	4	2	5	3	5
Poling	190	27·3	4	7	7	...	8
Patching	265	12·8	4	3	3	4	3
Burpham	310	11·0	3	3	2	5	4
South Stoke	110	14·5	1	2	...	2	3
Houghton	210	22·8	2	3	5	5	4
WHOLE DISTRICT	7,543	17·0	131	126	131	131	125

NITARY DISTRICT, 1875-79.

l from various causes in each Parish in the five years.

otal ths in he ears.	Mean Annual Number of Deaths.	TOTAL DEATHS in the Five Years from			Mean Annual DEATH-RATE per 100,000 living from		
		Zymotic Disease,	Phthisis.	Lung Disease.	Zymotic Disease.	Phthisis.	Lung Disease.
72	14·4	2	9	11	49	221	270
28	5·6	3	4	2	300	400	200
56	11·2	7	4	6	206	117	176
21	4·2	2	1	3	161	80	242
21	4·2	1	1	4	121	121	484
50	10·0	2	8	5	96	385	240
14	2·8	2	2	1	145	145	72
1	0·2	...	...	...	...	...	...
22	4·4	3	6	3	179	358	179
78	15·6	6	8	9	115	154	173
27	25·4	14	16	18	197	225	253
28	5·6	...	3	3	...	171	171
13	2·6	1	...	1	80	...	80
7	1·4	...	...	...	...	...	...
19	2·8	2	...	1	250	...	125
26	5·2	1	2	4	105	210	420
17	3·4	2	3	2	151	226	151
17	3·4	1	...	3	64	...	193
8	1·6	1	1	2	181	181	363
19	4·8	1	1	3	95	95	285
44	128·8	51	69	81	135	183	214

EAST PRESTON RURAL SANITARY DISTRICT.

TABLE IV.—Showing the Total Deaths from Zymotic Diseases in each Parish in the 5 years 1875-79.

PARISH	Small Pox	Measles	Scarlatina	Diphtheria	Croup (not "spasmodic")	Whooping Cough	Cont. Fevers: Typhus	Cont. Fevers: Enteric or Typhoid	Cont. Fevers: Other or doubtful	Diarrhœa and Dysentery	Cholera	Rheumatic Fever	Erysipelas	Pyæmia	Puerperal Fever	TOTAL
Broadwater	...	...	1	...	...	...	...	...	...	1	...	...	...	...	...	2
Heene	...	...	...	1	...	...	...	1	...	1	...	...	...	...	...	3
West Tarring	...	...	2	1	...	...	...	1	...	3	...	...	...	...	...	7
Clapham	...	...	1	...	...	...	...	...	...	1	...	...	...	...	...	2
Durrington	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1
Goring	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	2
Ferring	...	...	1	...	...	...	...	1	...	...	...	...	...	...	...	2
Kingston	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...
East Preston	...	...	...	3	...	4	...	1	...	1	...	...	...	...	...	3
Angmering	...	...	2	1	...	...	...	...	...	1	...	...	...	...	...	6
Leominster	...	2	1	...	...	...	...	...	...	5	...	...	...	...	...	14
Rustington	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Climping	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1
Ford	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Tortington	...	1	...	...	...	...	...	1	...	...	...	...	1	...	...	2
Poling	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Patching	...	...	1	...	...	...	...	1	...	...	...	...	...	...	...	2
Burpham	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1
South Stoke	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1
Houghton	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1
TOTAL	...	3	10	6	...	7	...	7	1	16	...	...	1	...	...	51

(A) TABLE OF DEATHS during the year 1879, in the Rural Sanitary District of EAST PRESTON; classified according to Diseases, Ages, and Localities, and showing also the Population of such Localities, and the Births therein during the year.

(I) Names of Localities (being Parishes Groups of Parishes, Townships, Wards, or other areas of known population) adopted for the purpose of these Statistics; public institutions being excluded.	Population at all ages.		Registered Births.	Mortality from all causes at subjoined ages							Mortality from subjoined causes, distinguishing deaths in Persons under five Years of Age.																						
																		Cont. Fevers														
	Census 1871	Estimated to middle of 1879		At all ages	Under 1 year	1 and under 5	5 and under 15	15 and under 25	25 and under 60	60 and upwards		Small Pox	Measles	Scarlatina	Diphtheria	Croup (not "spasmodic")	Whooping Cough	Typhus	Enteric or Typhoid	Other or doubtful	Diarrhœa and Dysentery	Cholera	Rheumatic Fever	Erysipelas	Pyæmia	Puerperal Fever	Ague	Phthisis	Bronchitis, Pneumonia and Pleurisy	Heart Disease	Injuries	Other Diseases
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
WORTHING SUB-DISTRICT	2440	2918	77	47	8	2	1	1	13	22	Under 5																		3			7
											5 upwds								1									2	4	3	3	24
LITTLEHAMPTON SUB-DISTRICT	3139	3370	118	48	9	2	4	4	10	19	Under 5																		3			8
											5 upwds																	4	3	6	1	23
ARUNDEL SUB-DISTRICT	1358	1457	39	30	7	2	—	3	4	14	Under 5																		4			5
											5 upwds																	1	2	3	1	14
											Under 5																					
											5 upwds																					
											Under 5																					
											5 upwds																					
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											5 upwds																					
											Under 5																					
											5 upwds																					
											Under 5																					
											5 upwds																					
(II.) Public Institutions.											Under 5																					
											5 upwds																					
TOTALS	6937	7745	234	125	24	6	5	8	27	55	Under 5																		10			20
											5 upwds								1									7	9	12	5	61

(B) TABLE OF MORTALITY AND SICKNESS in the Rural Sanitary District of EAST PRESTON, 1879, for the twelve calendar months ending December 31st, 1879.

NAME OF DISEASE.	(A) Deaths (among all classes) registered as having occurred in the District or Division.				(B) Sickness and Deaths among Paupers.				(C) If there be be any Hospital or other Public Medical Institution in or near the District or Division, the subjoined columns are to be filled up.					
	Total deaths registered as above; including those enter'd in cols. IV. and V.		Deaths of Persons who have come into the District or Division with their fatal illness upon them.		Sickness and Deaths among out-door paupers; and among any paupers who belong to the District or Division, and have been removed into the Workhouse on account of illness; whether the Workhouse be within or without the District or Division.				IN-PATIENTS. Sickness and Deaths in such Institutions among inmates WHO BELONG TO the District or Division.				OUT-PATIENTS. New cases of Sickness among persons WHO BELONG to the District or Division, and are Out-Patients of Hospitals or Patients of Dispensaries.	
					New Cases		Deaths		New Cases		Deaths			
	Aged under 5 years	Aged 5 yrs. and upwds.	Aged under 5 years	Aged 5 yrs. and upwds.	Aged under 5 years.	Aged 5 yrs. and upwds.	Aged under 5 years.	Aged 5 yrs. and upwds.	Aged under 5 years.	Aged 5 yrs. and upwds.	Aged under 5 years.	Aged 5 yrs. and upwds.	Aged under 5 years.	Aged 5 yrs and upwd
I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	XII.	XIII.	XIV.	XV.
Small-Pox	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Measles	...	...	...	...	2	5	...	...	...	...	...	...	...	...
Scarlatina	..	...	...	...	...	..	...	...	...	...	...	..	...	...
Diphtheria	...	...	...	...	...	1	...	...	...	...	...	...	...	...
Croup (not "spasmodic")	...	...	...	...	...	...	...	...	...	...	...	...	...	..
Whooping Cough	...	...	...	...	...	...	...	...	...	...	...	...	...	...
"Continu'd" Fevors. — Typhus	...	...	...	...	...	...	...	...	...	...	...	...	...	...
"Continu'd" Fevors. — Enteric	...	1	...	..	...	...	..	...	...	...	..	...	...	...
"Continu'd" Fevors. — Of other or doubtful sorts	...	...	...	...	..	...	...	...	...	...	...	...	...	...
Diarrhœa and Dysentery	...	...	...	...	...	2	...	...	...	...	...	...	...	...
Cholera	...	..	...	...	...	...	...	..	...	...	...	...	...	...
Rheumatic Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Erysipelas	...	...	...	...	...	5	...	...	...	...	...	...	...	...
Pyæmia	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ague	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Phthisis	...	7	...	...	...	6	...	1	...	...	...	...	...	...
Bronchitis, Pneumonia & Pleurisy	10	9	...	...	5	19	4	4	...	...	...	...	...	...
Heart-Disease	...	12	...	...	...	5	...	3	...	...	...	...	...	...
Injuries	...	5	...	...	1	15	...	..	...	...	...	...	...	...
DISEASES NOT NAMED ABOVE	20	61	...	...	23	290	1	17	...	...	...	...	...	...
Total	30	95			31	348	5	25						

RURAL SANITARY DISTRICT OF MIDHURST.

Population (1871), 13,051. Area in Acres, 65,755
No. of Houses (1871), 2,623.

During the year 1879 the births of 414 children, and the deaths of 233 persons were registered. Of the births 220 were male, and 194 were female; of the deaths 120 were male, and 113 were female.

In the year 1878 there were 419 births and 222 deaths. Estimating the population in the middle of the year at 13,425, the birth-rate was 30·8, and the death-rate was 17·3 per 1000 persons living.

Throughout England and Wales the birth-rate during the year was 35·1, and the death-rate was 21·0 per 1000 persons living.

The deaths from *zymotic*, or catching disorders, were twelve in number, or nearly one in twenty of the total number of deaths. These twelve deaths included one from measles, six from diphtheria, one from whooping-cough, one from enteric fever, one from diarrhœa, and two from rheumatic fever.

The rate of mortality from these disorders was 0·9 per 1000 persons living, against 1·8 and 1·7 in the two preceding years.

The birth-rate and the death-rate in Midhurst and in the rest of the district are here shown:—

	Births.	Birth-rate.	Deaths.	Death-rate.
Midhurst Parish	40	25·5	37	23·5
Rest of Midhurst Sub-district ...	142	30·4	77	16·5
Fernhurst Sub-district	78	33·7	37	16·0
Harting Sub-district	154	31·6	82	16·8
Whole District ...	414	30·8	233	17·3

In each parish the deaths were thus distributed:—Woolavington, 4; Tillington, 20; Lodsworth, 15; Selham, 1; Heyshott, 6; Graffham, 2; Cocking, 8; Midhurst, 37; Woolbeding, 4; Easebourne, 14; Steep, 4; Lurgashall, 14; Fernhurst, 15; Linchmere, 7; Linch, 0; Stedham, 8; Iping, 9; Trotton, 5; Chithurst, 2; Terwick, 2; Rogate, 19; Harting, 21; Elsted, 6; Treyford, 2; Didling, 3; Bepton, 5.

There were seven deaths in the Easebourne Workhouse, and these have been distributed among the several parishes whence each inmate came.

The infant mortality, as measured by the number of deaths

under one year of age to the total number of births in the year was as follows :—

	Births.	Deaths under 1 year.	Ratio of Deaths to 1000 births.
Midhurst Parish ...	40	2	50
Rest of Midhurst Sub-district	142	14	99
Fernhurst Sub-district...	78	9	115
Harting Sub-district ...	154	15	97
Whole District ...	414	40	96

In the three preceding years the ratio was 61, 70 and 88.

Throughout England and Wales there were during the year 136 deaths of infants under one year of age to every 1000 infants born, against 158, 146, 136 and 153 in the four preceding years.

The death-rate in this district for children under five years of age is very low, being 29.6 at those ages, against an average of 68·3 per 1000 throughout England and Wales.

Table I. shows more in detail the mortality at various ages in this district, and a comparison is made with the mortality at similar periods of life throughout the country.

The forty infantile deaths included one from diarrhœa, seven from convulsions, four from lung disease, four from disease of stomach, etc, fifteen from debility after birth, and nine from premature birth.

In each quarter the births and deaths were as follows :—

	Births.			Deaths.		
	M.	F.	Total.	M.	F.	Total.
1st Quarter ...	49	47	96	38	33	71
2nd „ ...	48	39	87	28	30	58
3rd „ ...	64	61	125	24	26	50
4th „ ...	59	47	106	30	24	54
Year ...	220	194	414	120	113	233

The prolonged cold of the winter months proved more fatal to old than young; a cool, wet summer and fine autumn caused a low death-rate.

	Under one year.	1—5.	5—15.	15—25.	25—60.	60 and Upwards.	Total.
1st Quarter ...	12	8	1	2	17	31	71
2nd „ ...	11	2	4	3	9	29	58
3rd „ ...	10	2	2	—	12	24	50
4th „ ...	7	4	4	3	12	24	54
Year ...	40	16	11	8	50	108	233

The returns show that there were seven deaths "not certified" out of a total of 233; these deaths are entered thus—male, 3 days, debility; male, 3 days, convulsions; male, 10 months, convulsions; male, 75 years, apoplexy; female, 88

years, natural decay ; female, 84 years, inflammation of bowels ; female, 16 weeks, inflammation of chest.

Inquests appear to have been held in five cases, four cases of suicide and one of accident.

Three women died at or soon after childbirth ; one of heart disease ; and two from hæmorrhage ; in each case the cause of death was certified.

About 5 per cent. of the births registered in this district are illegitimate ; three infants born out of wedlock died during the year—male, seven days, debility ; female, one month, debility ; female, one year, whooping-cough ; in each case the cause of death was certified.

No case arose during the year in which it was necessary to condemn meat or any other article of food.

A few cases of overcrowding were dealt with during the year, and in several instances the cottages of the poor were cleansed and limewashed, under Sec. 46 of the Public Health Act, 1875.

The bakehouses and slaughter-houses have been inspected at intervals, and they have been kept in a cleanly state.

There is no common lodging house in this district.

No proceedings were taken before the magistrates during the year.

The new cases of sickness among paupers were 622, against 625, and 613 in the two previous years.

The following table shows the death-rate at the present time in this district, as compared with the two last decades ; it shows also the relation between the deaths from three important groups of disorders during the same period :—

Per 100,000 persons living.	1851—60.	1861—70.	1875—79.
All ages, both sexes—			
General Death-rate	1818	1761	1622
Zymotic Death-rate	321	243	131
Phthisis Death-rate	275	215	183
Lung Disease Death rate	176	194	167
	451	409	350
15 *to* 55 *years*—			
Phthisis Death-rate	455 mean. 539 female.	360 mean 407 female	287 mean 287 female
Lung Disease Death rate	54 male. 58 female.	70 male 43 female	46 male 29 female
Under 1 year	(?)	10843	10000
Under 5 years	3884	3539	2961

The above summary shows that there has been a distinct reduction in the general death-rate, and that this has been chiefly brought about by a diminution in the mortality from *zymotic* disease and *consumption*.

Table III. shows the deaths that occurred in each parish during the past four years. The table is here summarised:—

	Mean annual death-rate per 1000.	Mean annual death-rate per 100,000 from— Zymotic disease.	Phthisis.	Lung disease.
Midhurst Parish	19·4	162	243	210
Rest of Midhurst Sub-district	16·4	113	221	175
Fernhurst Sub-district ...	15·3	167	155	131
Harting Sub-district.....	15·3	124	139	160
Whole district	16·2	131	183	167

The Fernhurst sub-district is formed chiefly by Weald clay, and it corresponds pretty closely as regards soil and situation to the North Sub-district of Petworth.

Midhurst itself is on the lower greensand, but as there is much clay in the beds here, the subsoil is in many parts wet, and water may be frequently found two or three feet below the surface. So that although the soil about here looks sandy and pervious, it is really in many places very damp, because the thin bands or seams of clay hold up the water in the subsoil. Midhurst and Henfield are on very similar formations.

A line of villages running from east to west, lie on the Sandgate and Hythe beds of the lower greensand, and are on dry ground; of this group, Tillington is to the east and Rogate to the west. Another parallel line of villages is on higher ground on the upper greensand and just beneath the chalk downs. Of this group Woolavington and Graffham are to the east, and Harting is to the west.

The parishes in Harting sub-district may be compared with the Petworth South sub-district, as the nature of the soil is similar.

	Mean annual Death-rate per 1000.	Mean annual Death-rate per 100,000 persons living from— Zymotic Disease.	Phthisis.	Lung Disease.
Midhurst Parish	19.4	162	243	210
Henfield Parish	17·7	111	222	283
Fernhurst Sub-district	15·3	167	155	131
Petworth North Sub-district	15·9	95	136	294
Harting Sub-district	15·3	124	139	160
Petworth South Sub-district	15·4	135	95	271

Table IV. shows that in this district, as in Petworth, diphtheria is of frequent occurrence, and the more especially is this the case in those villages which, like Fernhurst and Lurgashall, are on the Weald clay.

At Lurgashall, during the past year, there were several cases of diphtheria. In the summer there had been one or two instances of families having sore throats, but it was not until October that the disorder rapidly spread. The village of Lurgashall is but small, and scattered round about throughout the parish are numerous farms and cottages, so that everything is favourable for isolation. The place is in a lonely part of Sussex; it is near no railway, and the traffic with other places is very limited, except for agricultural purposes. The soil is a stiff, cold clay, very retentive of moisture. The school-house is on one side of the village green, and this place seemed to be the centre whence the disorder was propagated. The average school attendance is about 60.

About October 8th, three children attending the school were taken ill within a week, and then two other younger children were attacked who did not go to school; they lived at Windfold Wood Common, a small hamlet nearly a mile from the Green. Close to here, there lived a family consisting of a man, wife, and four children; the only two attacked were those who went to school.

Early in November several more cases occurred, and in every case where a family was attacked those children were first affected who attended school, and then the disorder spread to other inmates of the house.

The disease seemed most common in children between five and ten years of age; it was marked by a sore throat, great swelling of the glands of the neck, foul breath, much depression, frequently albuminuria and in some cases the action of the muscles of the soft palate was more or less interfered with and the act of swallowing was imperfect for weeks after convalescence. In most of the cases the disease was very mild, and no medical man was called in, as the parents thought the children merely had bad sore throats.

These cases were no doubt of an infective nature, and as they kept on attending school, they were the means of spreading the disorder. Even in these mild cases, there was occasional albuminuria and loss of substance in the tonsils; there was also more depression and anæmia than in ordinary cases of catarrh, and recovery was slow. Many of the cottagers here are very poor and the children do not seem able to stand well the effects of acute disease. But here, as in other outbreaks, the disease is not most fatal in the worst and dirtiest places. In the best cottage on the green, six out of eight inmates were attacked and one died; in a comfortable and airy farmhouse, three out of six inmates were attacked and one died, while another fatal case

happened in a cottage which was roomy and well-built. Yet around Lurgashall Green and on the south side there are several old tumble-down cottages, where not only is the cubic space deficient, but the doors and windows do not properly fasten and the walls are damp and the whole place draughty and cheerless. Yet though several children living in these places were taken ill, there was not a fatal case among them. The same fact was noticed in an outbreak of diphtheria at Sutton in 1876, (Report III. p, 13). With regard to the cause of the disease the evidence seemed more negative than positive. It was not due to bad water, because in many places the water was very good, and there was nothing as regards the water supply which was common to those attacked.

Nor was the drainage the cause, because in those cases where the disease fell with peculiar incidence, the cottages were in very good condition, and there was no drain to the house at all, except an open surface drain, which carried off dirty water; in one case, where the disease was very severe, there was an earth closet in use. In other cases, where there was much dirt prevalent and the inmates were careless about cleanliness, the disease either did not appear, or else it was very slight. Nor was the milk supply the cause, because very few of those first attacked ever drank milk until after they were ill, when some neighbour would perhaps send in some skimmed milk. I have never seen a case in a country district where there was any connection between milk and diphtheria, although inquiries have constantly been made.

One point worth noticing is, that nearly all those who were attacked had to come to school from long distances; the children, never too warmly clad, had to pass along clay roads, which in wet weather were in very bad condition; they would sit in school for several hours with their damp shoes, and then return home in the chilly air of an autumn afternoon. In nearly every case the disease seemed to begin with a "heavy cold," and certainly the children were exposed to conditions which tend to produce catarrh. The situation here is cold and bleak, and at the time north-east winds here were very prevalent. Local causes, probably, have some effect in causing diphtheria, as this disease is seldom absent from the district, and it seems to break out more virulently in damp and cold weather.

In the above cases the school was the chief means of spreading the disorder, and chiefly so, I imagine, because so many children came there in an infectious state, while their parents thought they merely had ordinary sore throat.

The school at Lurgashall was closed on December 2nd, and it was re-opened on December 29, having in the meantime been cleansed and fumigated. The disease ceased to spread as soon as the school was closed.

MIDHUST RURAL SANITARY DISTRICT.

TABLE I.—Showing the Deaths and Death-rate at various groups of ages in the four years 1876-79.

YEAR.	At all Ages.	Under 1 year.	1 and under 5.	Total under 5 yrs.	5 and under 15.	15 and under 25.	25 and under 60.	60 and upwards.
1876	221	36	14	50	10	5	60	96
1877	189	30	15	45	12	9	50	73
1878	222	37	20	57	21	8	49	87
1879	233	40	16	56	11	8	50	108
TOTAL	865	143	65	208	54	30	209	364
Mean	216·2	35·7	16·2	52·0	13·5	7·5	52·2	91·0
Population in 1877 in each group.	13329	358	1398	1756	3120	2203	4935	1315
Death-rate per 1000 persons living in each group	16·22	100·0	11·6	29·6	4·3	3·4	10·6	69·2
Death rate in England at corresponding ages in the 10 years 1861—70.	22·4	180·4	36·3	68·3	6·3	7·2	14·0	67·7

TABLE II.—Showing the Deaths in each of the Four Years, 1876-79 from Zymotic Diseases.

YEAR.	Small Pox	Measles	Scarlatina	Diphtheria	Croup (not "spasmodic")	Whooping Cough	Cont. Fvrs.		Diarrhœa and Dysentery	Cholera	Rheumatic Fever	Erysipelas	Pyæmia	Puerperal Fever	TOTAL	Rate per 1000 living
							Typhus	Enteric or Typhoid	Other or doubtful							
1876	2	...	1	2	...	...	...	4	...	1	...	...	1	...	...	11	0·8
1877	...	2	2	3	...	9	1	1	1	1	...	3	1	...	...	24	1·8
1878	2	4	...	2	...	3	...	4	1	6	...	...	...	...	1	23	1·7
1879	...	1	...	6	...	1	...	1	...	1	...	2	...	...	...	12	0·8
Tl.	4	7	3	13	...	13	1	10	2	9	...	5	2	...	1	70	1·31

Table III. showing the Deaths and Death-rate from all causes

PARISH.	Population in 1876—9.	Mean Death-rate per 1000 all ages	DEATHS FROM ALL CAUSES in				
			1875	1876	1877	1878	1879
Woolavington ...	425	9·4		3	2	7	4
Tillington	820	20·7		20	12	16	20
Lodsworth	600	15·8		4	10	9	15
Selham	85	17·6		3	1	1	1
Heyshott	380	19·8		7	8	9	6
Graffham	440	13·6		12	5	5	2
Cocking	510	16·6		8	8	10	8
Midhurst	1543	19·4		35	22	26	37
Woolbeding	360	18·7		3	9	11	4
Easebourne	890	16·8		17	14	15	14
Steep	341	11·7		3	5	4	4
Lurgashall	770	13·6		10	7	11	14
Fernhurst	900	18·0		18	17	15	15
Linchmere	340	15·4		5	4	5	7
Linch	90	2·7		1	...	...	...
Stedham	500	19·0		11	9	10	8
Iping	500	11·5		4	7	3	9
Trotton	465	12·4		5	4	9	5
Chithurst	310	9·7		5	4	1	2
Terwick	130	21·1		3	1	5	2
Rogate...	1010	14·1		16	10	12	19
Harting	1295	15·2		16	18	24	21
Elsted	175	22·8		1	6	3	6
Treyford	150	23·3		3	2	7	2
Didling	100	20·0		2	2	1	3
Bepton	200	20·0		6	2	3	5
WHOLE DISTRICT	13,329	16·22		221	189	222	233

NITARY DISTRICT, 1876-79.

d from various causes in each Parish in the four years.

Total aths in the Years.	Mean Annual Number of Deaths.	TOTAL DEATHS in the Five Years from			Mean Annual DEATH-RATE per 100,000 living from		
		Zymotic Disease,	Phthisis.	Lung Disease.	Zymotic Disease.	Phthisis.	Lung Disease.
16	...	2	...	..	118	...	...
68	...	7	12	6	213	366	183
38	...	3	8	2	125	333	83
6	...	...	...	...	...	...	...
30	...	2	1	5	132	66	330
24	...	2	5	1	116	290	58
34	...	1	9	7	49	441	343
120	...	10	15	13	162	243	210
27	...	3	...	5	208	...	347
60	...	...	6	6	...	168	168
16	...	2	2	2	147	147	147
42	...	8	3	4	259	97	130
65	...	4	10	3	111	277	83
21	...	2	...	4	147	...	294
1	...	...	...	...	...	...	...
38	...	2	2	3	100	100	150
23	...	2	2	5	100	100	250
23	...	2	3	4	108	161	215
12	...	1	2	2	81	161	161
11	...	...	1	2	...	192	384
57	...	7	5	1	159	113	23
79	...	7	6	10	135	116	193
16	...	2	2	1	286	286	143
14	...	...	2	1	...	333	166
8	...	1	1	...	250	250	...
16	...	...	1	2	...	125	250
865	...	70	98	89	131	183	167

MIDHURST RURAL SANITARY DISTRICT.

TABLE IV. — Showing the Total Deaths from Zymotic Diseases in each Parish in the 4 years 1876-79.

PARISH	Small Pox	Measles	Scarlatina	Diphtheria	Croup (not "spasmodic")	Whooping Cough	Cont. Fevers: Typhus	Cont. Fevers: Enteric or Typhoid	Cont. Fevers: Other or doubtful	Diarrhœa and Dysentery	Cholera	Rheumatic Fever	Erysipelas	Pyæmia	Puerperal Fever	TOTAL
Woolavington				1				2		1		1				4
Tillington	2							1	1							7
Lodsworth		1				1							1			3
Selham				1								1				13
Heyshott																13
Graffham	2															3
Cocking		2				1		3								7
Midhurst						5		1		1						10
Woolbeding						1										2
Easebourne										1			1			9
Steep				6		1										13
Lurgashall				3						1						3
Fernhurst				1						1						2
Linchmere																
Linch						1				1						2
Stedham			1							1						2
Iping		1						1								2
Trotton							1									1
Chithurst								2	1			1				4
Terwick		1	1	1		2				2						7
Rogate		2	1													3
Harting																
Elsted																
Treyford																
Didling																
Bepton																
TOTAL	4	7	3	13	...	13	1	10	2	9	...	5	2	...	1	70

(A) TABLE OF DEATHS during the year 1879, in the Rural Sanitary District of MIDHURST; classified according to Diseases, Ages, and Localities, and showing also the Population of such Localities, and the Births therein during the year.

(I) Names of Localities (being Parishes Groups of Parishes, Townships, Wards, or other areas of known population) adopted for the purpose of these Statistics; public institutions being excluded. 1	POPULATION AT ALL AGES. Census 1871 2	Estimated to middle of 1879 3	Registered Births. 4	MORTALITY FROM ALL CAUSES AT SUBJOINED AGES At all ages 5	Under 1 year 6	1 and under 5 7	5 and under 15 8	15 and under 25 9	25 and under 60 10	60 and upwards 11	12	MORTALITY FROM SUBJOINED CAUSES, DISTINGUISHING DEATHS IN PERSONS UNDER FIVE YEARS OF AGE. Small Pox 13	Measles 14	Scarlatina 15	Diphtheria 16	Croup (not "spasmodic") 17	Whooping Cough 18	Cont. Fevers Typhus 19	Cont. Fevers Enteric or Typhoid 20	Cont. Fevers Other or doubtful 21	Diarrhœa and Dysentery 22	Cholera 23	Rheumatic Fever 24	Erysipelas 25	Pyæmia 26	Puerperal Fever 27	Ague 28	Phthisis 29	Bronchitis, Pneumonia and Pleurisy 30	Heart Disease 31	Injuries 32	Other Diseases 33
MIDHURST PARISH	1465	1570	40	37	2	6	1	—	8	20	Under 5		1																4			3
											5 upwds																	4	1	8		16
REST OF MIDHURST SUB-DISTRICT	4642	4672	142	77	14	4	3	2	23	31	Under 5						1												3			14
											5 upwds				1				1				1					13	7	6	2	28
FERNHURST SUB-DISTRICT	2206	2313	78	37	9	2	4	2	7	13	Under 5																		1			10
											5 upwds				5													4	4	5		8
HARTING SUB-DISTRICT	4738	4870	154	82	15	4	3	4	12	44	Under 5										1								4			14
											5 upwds												1					5	7	13	3	34
											Under 5																					
											5 upwds																					
											Under 5																					
											5 upwds																					
											Under 5																					
											5 upwds																					
											Under 5																					
											5 upwds																					
(II.) Public Institutions.											Under 5																					
											5 upwds																					
TOTALS	13051	13425	414	233	40	16	11	8	50	108	Under 5		1				1				1								12			41
											5 upwds				6				1				2					26	19	32	5	86

(B) TABLE OF MORTALITY AND SICKNESS in the Rural Sanitary District of MIDHURST, 1879, for the twelve calendar months ending December 31st, 1879.

NAME OF DISEASE.	(A) Deaths (among all classes) registered as having occurred in the District or Division.				(B) Sickness and Deaths among Paupers.				(C) If there be be any Hospital or other Public Medical Institution in or near the District or Division, the subjoined columns are to be filled up.					
	Total deaths registered as above; including those enter'd in cols. IV. and V.		Deaths of Persons who have come into the District or Division with their fatal illness upon them.		Sickness and Deaths among out-door paupers; and among any paupers who belong to the District or Division, and have been removed into the Workhouse on account of illness; whether the Workhouse be within or without the District or Division.				IN-PATIENTS. Sickness and Deaths in such Institutions among inmates WHO BELONG TO the District or Division.				OUT-PATIENTS. New cases of Sickness among persons WHO BELONG to the District or Division, and are Out-Patients of Hospitals orPatients of Dispensaries.	
					New Cases		Deaths		New Cases		Deaths			
	Aged under 5 years	Aged 5 yrs. and upwds.	Aged under 5 years	Aged 5 yrs. and upwds.	Aged under 5 years.	Aged 5 yrs. and upwds.	Aged under 5 years.	Aged 5 yrs. and upwds.	Aged under 5 years.	Aged 5 yrs. and upwds.	Aged under 5 years.	Aged 5 yrs. and upwds.	Aged under 5 years.	Aged 5 yrs. and upwds.
I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	XII.	XIII.	XIV.	XV.
Small-Pox	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Measles	1	...	...	...	4	...	...	...	...	...	...	...	...	...
Scarlatina	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diphtheria	...	6	...	...	6	19	...	3	...	...	...	...	...	...
Croup (not "spasmodic")	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Whooping Cough	1	...	...	...	7	4	...	...	...	...	...	...	...	...
"Continu'd" Fevors. — Typhus	...	...	...	...	...	...	...	...	...	...	...	...	...	...
"Continu'd" Fevors. — Enteric	...	1	...	..	...	2	...	...	...	...	...	...	...	...
"Continu'd" Fevors. — Of other or doubtful sorts	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diarrhœa and Dysentery	1	...	...	...	5	14	...	...	...	...	...	...	...	...
Cholera	...	..	...	...	...	...	...	..	...	...	...	...	...	...
Rheumatic Fever	...	2	...	...	...	..	...	...	...	...	...	...	...	...
Erysipelas	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Pyæmia	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ague	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Phthisis	...	26	...	...	...	17	...	8	...	...	...	...	...	...
Bronchitis, Pneumonia & Pleurisy	12	19	...	...	17	49	2	1	...	...	...	...	...	...
Heart-Disease	...	32	...	...	...	10	...	6	...	...	...	...	...	...
Injuries	...	5	...	...	3	21	...	1	...	...	...	...	...	...
DISEASES NOT NAMED ABOVE	41	86	...	...	48	396	4	11	...	...	...	...	...	...
Total	56	117			90	532	6	30						

URBAN SANITARY DISTRICT OF WORTHING.

Population (1871), 8,013. Area in Acres, 784.
No. of Houses (1871), 1,440.

During the year 1879, the births of 287 children, and the deaths of 153 persons were registered. Of the births 144 were male, and 143 were female; of the deaths 73 were male, and 80 were female. In the year 1879, there were 265 births, and 168 deaths.

Estimating the population in the middle of the year at 9,365, the birth-rate was 30·6 and the death-rate was 16·3 per 1000 persons living. Among the 153 deaths are included the deaths of 7 visitors; excluding these, the death-rate was 15·6 per 1000.

Throughout England and Wales, the birth-rate during the past year was equal to 35·1, and the death-rate was equal to 21·0 per 1000 persons living.

There were nine deaths from *zymotic*, or catching disorders, or one in seventeen of the total number of deaths. These nine deaths included five from measles, one from diphtheria and two from whooping-cough.

This district was very free from infectious disorder until the close of the year, when measles and whooping-cough were very prevalent.

The rate of mortality from these disorders was 0·9 per 1000, against 1·8, 3·2, 2·1 and 2·2 in the four preceding years.

Table II. shows the prevalence of these disorders in each year.

The figures slightly differ from those before published, owing to changes in the area of the district, so that a few deaths which before were included in the East Preston District, have been included for the purpose of comparison.

The infant mortality, as measured by the number of deaths under one year to every 1000 children born, was 73 per 1000.

In the past five years the rate has been as follows:—

Year.	Births.	Deaths under 1 year.	Ratio of Deaths to 1000 Births
1875	240	33	138
1876	258	30	116
1877	250	33	126
1878	265	31	117
1879	287	21	73
	1300	148	...
Mean	260·0	29·6	113

It must be remembered that by this method of calculation, this rate is always a little lower than the rate estimated from those living under one year of age.

Worthing differs from other parts of the district in its population as regards age and sex. In most country districts, the males slightly exceed the females in number; here there are nearly 1000 more women than men. In this district there are many more young people from five to fifteen years of age, than in other parts of West Sussex. These variations are due to the number of schools and of lodging houses in the town, whereby the proportion of those living at healthy ages is increased, and the general death-rate is thereby lowered. On the other hand, there are several people here who have come in advanced life and who have retired from active work, and in this way, the previous advantage is counterbalanced, because the mortality of such people is naturally high.

The births and deaths in each quarter were thus distributed :—

	Births.			Deaths.		
	M.	F.	Total.	M.	F.	Total.
1st Quarter ...	29	34	63	16	24	40
2nd „ ...	42	43	85	20	17	37
3rd „ ...	44	31	75	21	12	33
4th „ ...	29	35	64	16	27	43
Year ...	144	143	287	73	80	153

The influence of season on the death-rate is more readily seen by comparing the ages at death in each quarter.

	Under one year.	1—5.	5—15.	15—25.	25—60.	60 and Upwards.	Total.
1st Quarter ...	3	1	1	4	7	24	40
2nd „ ...	10	2	0	0	6	19	37
3rd „ ...	3	1	0	3	15	11	33
4th „ ...	5	9	1	1	11	16	43
Year ...	21	13	2	8	39	70	153

There were no cases of deaths during the year returned as "not certified."

Inquests were held in six cases—one of suicide, two from street accidents, one infant was accidentally suffocated, and two died from natural causes.

Two infants born out of wedlock died during the year; in each case the cause of death was certified—female, eleven weeks, pneumonia; female, five days, asthenia. About 4·5 per cent. of the children born in this district are illegitimate.

In the Worthing Infirmary there were 42 in-patients during the year, against 27, 34, 30, and 42 in the four previous years.

There were also 1065 out-patients, against 1021, 1073, 1002, and 1074 in the four preceding years.

Since the population of the district whence these out-patients come cannot exceed 12,000, it would appear that about one person in twelve is becoming pauperised.

There were a few cases of overcrowding during the year, and these were remedied.

There is but one common lodging house in the district, and this is well kept.

No case arose during the year in which it was necessary to condemn meat or any other article of food.

The slaughterhouses and bakehouses have been inspected at intervals, and they have been kept in a cleanly state.

There were 141 new cases of sickness among paupers, against 243, 347, 194 and 199 in the four preceding years.

Drainage.—The main sewer now carries all the sewage away to sea, and it seems to work well. A new drain was laid down Montague-street during the year, in place of the old one, which was very defective.

A great many houses have had their drainage improved by ventilating the waste pipes, and cutting off the sink pipes from any direct communication with the sewer.

One great improvement which has taken place during the past few years is the fact that builders are now beginning to recognise the great importance of thorough ventilation of house drains, and in most of the new houses which are being built this point is attended to.

Water Supply.—The water supply is very good in quality, but it will soon be hardly sufficient in quantity for the town, which is rapidly growing in size. For this purpose it is intended to drive headings into the chalk at the level of the flint beds, whereby a much larger supply is hoped to be obtained.

In the last annual report a comparison was made between the death-rate at the present time and in previous years. This comparison is here summarised, and it shows that there has been a reduction in the *zymotic* and phthisis death-rates, but an increase in the general and lung-disease death-rates.

I do not know whether in previous years the deaths of visitors were included, but the deaths are given below in two lines showing the rate including visitors and the rate excluding visitors. During the past five years 75 visitors died in Worthing, or an average of 15 a year; of these, 11 died of zymotic disease, 14 of phthisis and 10 of lung diseases. The following table shows the deaths from all causes and from three important groups of disorders during the past five years :—

Year.	Deaths.	Deaths from— Zymotic disease.	Phthisis.	Lung disease.
1875	164	16	18	26
1876	178	29	21	15
1877	160	19	15	9
1878	168	21	19	26
1879	153	9	18	21
Total	823	94	91	97
Mean	164·6	18·8	18·2	19·4

The following table shows the death-rate in Worthing for the past five years, and also the death-rate from three important groups of disorders :—

	Mean annual Death-rate per 1000.	Mean annual Death-rate per 100,000 persons living from— Zymotic Disease.	Phthisis.	Lung Disease.
Worthing	18·23	208	201	215
„ excluding visitors	16.50	183	170	192

The following table shows the changes that have taken place in the death-rate during the past 27 years :—

Per 100,000 persons living.	1843—52. Before execution of sanitary works.	1853—56. During execution of sanitary works.	1857—63. After execution of sanitary works.	1875—79. (including visitors)
All ages, both sexes— General Death-rate	1550	1630	1530	1823
Zymotic Death-rate	292	280	328	208
Phthisis Death-rate	305	282	195	201
Lung Disease Death rate	147	185	185	215

WORTHING URBAN SANITARY DISTRICT.

TABLE I.—Showing the Deaths and Death-rate at various groups of ages in the five years 1875-79.

YEAR.	At all ages.	Under 1 year.	1 and under 5.	Total under 5 yrs.	5 and under 15.	15 and under 25.	25 and under 60.	60 and upwards.
1875	164	33	17	50	3	10	41	60
1876	178	30	25	55	15	5	47	56
1877	160	33	15	48	8	6	42	56
1878	168	31	13	44	2	8	49	65
1879	153	21	13	34	2	8	39	70
TOTAL.....	823	148	83	230	30	37	218	307
Mean	164·6	29·6	16·6	46·2	6·0	7·4	43·6	61·4
Population in 1877 in each group.	9028	237	855	1092	2022	1686	3370	858
Death-rate per 1000 persons living in each group	18·23	125·0	19·4	42·3	2·9	4·4	12·9	71·6
Death rate in England at corresponding ages in the 10 years 1861—70.	22·4	180·4	36·3	68·3	6·3	7·2	14·0	67·7

TABLE II.—Showing the Deaths in each of the Five Years, 1875-79 from Zymotic Diseases.

YEAR.	Small Pox	Measles	Scarlatina	Diphtheria	Croup (not "spasmodic")	Whooping Cough	Cont. Fvrs			Diarrhœa and Dysentery	Cholera	Rheumatic Fever	Erysipelas	Pyæmia	Puerperal Fever	TOTAL	Rate per 1000 living
							Typhus	Enteric or Typhoid	Other or doubtful								
1875	...	1	...	...	...	...	1	...	3	10	...	...	1	...	...	16	1·8
1876	...	4	16	2	...	1	...	...	...	5	...	..	...	...	1	29	3·2
1877	...	...	2	2	...	1	...	...	1	9	...	2	...	...	2	19	2·1
1878	...	...	...	...	...	15	...	...	...	5	...	...	...	1	...	21	2·2
1879	...	5	...	1	...	2	...	...	...	...	...	...	1	...	...	9	0·9
Tl.	...	10	18	5	...	19	1	...	4	29	...	2	2	1	3	94	2·08

(A) TABLE OF DEATHS during the year 1879, in the Urban Sanitary District of WORTHING; classified according to Diseases, Ages, and Localities, and showing also the Population of such Localities, and the Births therein during the year.

(I) Names of Localities (being Parishes Groups of Parishes, Townships, Wards, or other areas of known population) adopted for the purpose of these Statistics; public institutions being excluded.	POPULATION AT ALL AGES.		Registered Births.	MORTALITY FROM ALL CAUSES AT SUBJOINED AGES								MORTALITY FROM SUBJOINED CAUSES, DISTINGUISHING DEATHS IN PERSONS UNDER FIVE YEARS OF AGE.																				
	Census 1871	Estimated to middle of 1879		At all ages	Under 1 year	1 and under 5	5 and under 15	15 and under 25	25 and under 60	60 and upwards		Small Pox	Measles	Scarlatina	Diphtheria	Croup (not "spasmodic")	Whooping Cough	Cont. Fevers: Typhus	Cont. Fevers: Enteric or Typhoid	Cont. Fevers: Other or doubtful	Diarrhœa and Dysentery	Cholera	Rheumatic Fever	Erysipelas	Pyæmia	Puerperal Fever	Ague	Phthisis	Bronchitis, Pneumonia and Pleurisy	Heart Disease	Injuries	Other Diseases
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
WORTHING URBAN SANITARY DISTRICT	8013	9365	287	152	21	13	2	8	38	70	Under 5		5		1		2												4		2	20
											5 upwds													1				18	17	17	5	60
											Under 5																					
											5 upwds																					
											Under 5																					
											5 upwds																					
											Under 5																					
											5 upwds																					
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											5 upwds																					
											Under 5																					
											5 upwds																					
											Under 5																					
											5 upwds																					
(II.) Public Institutions. The Worthing Infirmary				1					1		Under 5																			1		
											5 upwds																					
TOTALS	8013	9365	287	153	21	13	2	8	39	70	Under 5		5		1		2												4		2	20
											5 upwds													1				18	17	18	5	60

(B) TABLE OF MORTALITY AND SICKNESS in the Urban Sanitary District of WORTHING, 1879, for the twelve calendar months ending December 31st, 1879.

NAME OF DISEASE.	(A) Deaths (among all classes) registered as having occurred in the District or Division.				(B) Sickness and Deaths among Paupers.				(C) If there be any Hospital or other Public Medical Institution in or near the District or Division, the subjoined columns are to be filled up.					
	Total deaths registered as above; including those enter'd in cols. IV. and V.		Deaths of Persons who have come into the District or Division with their fatal illness upon them.		Sickness and Deaths among out-door paupers; and among any paupers who belong to the District or Division, and have been removed into the Workhouse on account of illness; whether the Workhouse be within or without the District or Division.				IN-PATIENTS. Sickness and Deaths in such Institutions among inmates WHO BELONG TO the District or Division.				OUT-PATIENTS. New cases of Sickness among persons WHO BELONG to the District or Division, and are Out-Patients of Hospitals or Patients of Dispensaries.	
					New Cases		Deaths		New Cases		Deaths			
	Aged under 5 years	Aged 5 yrs. and upwds.	Aged under 5 years	Aged 5 yrs. and upwds.	Aged under 5 years.	Aged 5 yrs. and upwds.	Aged under 5 years.	Aged 5 yrs. and upwds.	Aged under 5 years.	Aged 5 yrs. and upwds.	Aged under 5 years.	Aged 5 yrs. and upwds.	Aged under 5 years.	Aged 5 yrs. and upwds.
I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	XII.	XIII.	XIV.	XV.
Small-Pox	...	..	...	...	...	...	...	...	...	...	...	...	...	...
Measles	5	...	1	...	6	3	1	...	...	...	...	...	...	...
Scarlatina	..	...	..	...	...	..	...	...	...	...	...	...	...	...
Diphtheria	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Croup (not "spasmodic")	...	...	...	...	...	...	...	...	...	...	...	...	...	..
Whooping Cough	2	...	...	...	...	...	...	...	...	...	...	...	...	...
"Contim'd" Fevors. Typhus	...	...	...	...	...	...	...	...	...	...	...	...	...	...
"Contim'd" Fevors. Enteric	...	...	...	..	...	...	..	...	...	...	..	...	...	...
"Contim'd" Fevors. Of other or doubtful sorts	...	...	...	...	..	...	...	...	...	...	...	...	...	...
Diarrhœa and Dysentery	...	...	...	..	...	2	...	...	...	...	...	...	...	...
Cholera	...	..	...	...	...	...	...	..	...	...	...	...	...	...
Rheumatic Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Erysipelas	...	1	...	...	...	...	...	...	...	...	...	...	...	...
Pyæmia	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ague	...	...	...	...	...	...	...	...	...	1	...	...	...	...
Phthisis	...	18	...	...	...	6	...	4	...	...	...	...	...	3
Bronchitis, Pneumonia & Pleurisy	4	17	...	1	1	4	...	5	...	...	...	...	...	...
Heart-Disease	...	18	...	...	...	2	...	2	...	2	...	1	...	...
Injuries	2	5	1	1	...	1	...	...	...	...	...	...	2	32
DISEASES NOT NAMED ABOVE	20	60	1	2	9	107	...	5	...	39	...	...	86	942
Total	34	119	3	4	16	125	1	16		42		1	88	977

URBAN SANITARY DISTRICT OF LITTLEHAMPTON.

Population (1871), 3,272. Area in Acres, 1,222
No. of Houses (1871), 625.

During the year 1879 the births of 117 children, and the deaths of 50 persons were registered. Of the births 60 were male and 57 were female; of the deaths 31 were male, and 19 were female.

In the year 1878 there were 114 births and 60 deaths. Estimating the population in the middle of the year at 4032, the birth-rate was 29·0, and the death-rate was 12·4 per 1000 persons living. No visitors died during the year; the above number includes the deaths of four persons who died in East Preston Workhouse. Throughout England and Wales the birth-rate during the year was 35·1, and the death-rate was 21·0 per 1000 persons living.

The deaths from *zymotic*, or catching disorders, were two in number, or one in twenty-five of the total number of deaths. These two deaths were due to diphtheria; both occurred at the end of March, when cold north-east winds were prevalent, and in neither case was there any spread of the disease to any other member of the family. The sanitary arrangements and the water supply were good; the two children attacked lived in different parts of the town, and had no communication with each other. School attendance had no influence, as the children did not go to school, being only three years of age. In these cases the cold weather seemed to be the chief cause of the illness.

The rate of mortality from *zymotic* diseases was 0·5 per 1000 persons living, against 1·6, 2·1, 0·8 and 1·2 in the four preceding years.

The infant mortality, as measured by the number of deaths under one year to the number of births registered, was low, there being ,51 deaths to every 1000 infants born, against 36, 96, 79, and 131 in the four preceding years.

Of the 50 deaths last year six were under one year of age, three were between one year and under five years, four were between five and fifteen, three were between fifteen and twenty-five, twelve were between twenty-five and sixty, while twenty-two, or nearly one-half, died aged sixty years and upwards.

The births and deaths in each quarter were as follows :—

	Births.			Deaths.		
	M.	F.	TOTAL.	M.	F.	TOTAL
First Quarter	15	16	31	10	4	14
Second „	20	14	34	4	9	13
Third „	15	13	28	6	4	10
Fourth „	10	14	24	11	2	13
Year	60	57	117	31	19	50

The influence of season is shown by comparing the deaths in each quarter at various groups of ages :—

	Under 1 year.	1—5.	5—15.	15—25.	25—60.	60 and upwards.	TI.
First Quarter	4	1	1	...	3	5	14
Second „	1	2	...	1	4	5	13
Third „	1	...	2	...	2	5	10
Fourth „	...	...	1	2	3	7	13
Year ...	6	3	4	3	12	22	50

One illegitimate child died during the year—male, seventeen days, debility.

Inquests were held in four cases; one was a case of suicide, one of accidental drowning, and in one case a verdict of manslaughter was found against a woman for the death of her newborn male infant.

The returns do not state whether any of the deaths are certified or not.

There were four deaths in the East Preston Workhouse, which have been credited to this district.

There was no occasion during the year to condemn meat or any other article of food.

The slaughterhouses and bakehouses have been inspected at intervals, and they have been kept in a cleanly state.

There is no common lodging house in the district.

No proceedings were taken before the magistrates during the year.

The returns of sickness among paupers show that there were 75 new cases, against 71, 56, 53, and 80 in the four preceding years.

Water Supply.—Considerable progress has been made during the past year with regard to the supply of water to the town.

In the year 1877 a piece of land, about half-an-acre in extent, was purchased from the Duke of Norfolk, and a contract was entered into for sinking a well and boring in the chalk to a depth of 350 feet from the surface.

A well was then made 60 feet in depth and 6 feet in width ;

for the next nine feet the diameter was only 3 feet; then there was a nine-inch boring for 150 feet, and this was followed by an eight-inch boring.

At the end of 1877 a depth of 358 feet had been reached, and as enough water was not obtained a further boring to a depth of 500 feet from the surface was ordered. But as there was not even then a sufficient supply, the boring was discontinued, and it was determined to sink a fresh well, parallel to, and a few feet to the north of, the old well. This new well was to be 80 feet deep, and 6 feet in diameter, and headings were to be driven into the chalk so as to increase the water supply.

During the year the work was completed, and from the bottom of the new well ran out two galleries into the flinty beds of the upper chalk. The gallery to the east is 140 feet long, and the gallery to the south-west is 88 feet long. There is also a connecting gallery between the new well and the old bore; it is 18 feet in length, 6 feet high, and 3 feet wide.

The flow of water from the two galleries is equal to 60,000 gallons a day, and the subsoil water which runs down outside the cylinders of the old well into the bore is equal to 50,000 gallons a day. The water collected from a fissure in the old well at a depth of 65 feet is equal to 28,000 gallons a day, and the water from the borehole is equal to 30,000 gallons a day. So that altogether Mr Grantham estimates that there will be a total supply of 168,000 gallons every twenty-four hours.

It is probable that if the space outside the iron cylinders of the old well be filled up, so as to make the subsoil water pass through many feet of chalk instead of running down at once into the water bed, that the supply will be somewhat diminished. Since the population is now about 4000, a daily supply of 120,000 gallons would be ample for many years to come. In large towns as much as 30 gallons a head may be required, but in Littlehampton 20 gallons a head may be considered a liberal estimate. There are here no large manufacturing establishments where much water is required, and, if necessary, the streets could be watered with sea-water, and in this way there would be a large economy of the fresh water. A daily supply, then, of 120,000 gallons would suffice for a population of 6000, and even if some of the subsoil water be kept out at least this quantity can be obtained.

The wells are sunk to the north of the town, and there is no likelihood of any land near here being built upon, so that there seems no possibility of the subsoil water becoming contaminated. The flow of water in the soil is from north-west to south-east, *i.e.*, in a direction towards the sea, and the level of the water-bed varies with the tide, not because tidal water enters the wells, but because the fresh water is held back during a high tide and runs away freely during a low tide.

There are, however, some shallow wells near the sea, and near

the river which are very brackish, and probably the tidal water does affect these.

The analyses of the water in the new public well show that it is of very good quality.

The following is the result of two recent analyses :—

	No. 1.	No. 2.
	Parts per 100,000.	
Total solid residue	48·8	55·0
Chlorine	7·37	7·6
Chloride of Sodium	12·1	12·5
Nitrogen, as Nitrates.....	0·38	0·60
Hardness—		
Permanent	5 71	8·57
Temporary	22·41	18·57
Total	28·12	27·14
Ammonia—	Parts per million.	
Saline	·05	·026
Albumenoid	·07	·070

A section of the new well shows that the following formations were passed through :—

	Feet.
Surface mould	1·0
Brick earth	7·0
Sand and earth	5·0
Clay and sand	7·6
Chalk, dyed yellow	5·6
Pervious white chalk.....	17·0
Hard white chalk	12·0
Ditto, with few flints	5·0
Ditto, with many flints.....	17·0
Total depth	77·2

It seems a mistake to imagine, as many do, that water can always be obtained by going deep enough. This is not the case. The chalk forms a bed of from 600 to 800 feet in thickness ; it is porous throughout, but much more so in the upper than in the lower portions. The upper chalk is white, and contains many flint beds and fissures, while the lower chalk is grey, compact, less porous, and contains no flints or fissures.

It is then from the upper chalk that water is readily obtained and the best way of getting an ample supply is not to bore deeply into the grey, non-fissured chalk, but to dig a well as far as the flinty and fissured upper chalk, and then to drive horizontal headings, or galleries, so as to extend the collecting area. Underneath the chalk lies the upper greensand, and next to this an impervious blue clay, called gault. Beneath the gault, and at a distance of probably 800 to 1000 feet from

the surface, is the pervious lower greensand, which contains an abundance of pure, soft water. If a hole were bored from the surface through these various beds and into the lower greensand, the water, which had been held down by the impervious gault, would rise through the borehole nearly up to the surface.

This, indeed, has been done at the Warren Well Farm at Brighton, and I believe also at Chichester, but the process is expensive and uncertain as the various formations differ much in thickness.

The first well and the boring into the grey chalk, which proved useless, cost a great deal more than the second well and the galleries.

	£	s.	d.
Land	82	10	0
First well and boring	2233	16	8
Second well and galleries	870	0	0
Engineer's commission and expenses, Clerk of Works, and various items	803	0	0
	£3989	6	8

The total expenses up to the present time amount to nea rly £4000 and for this sum the land has been purchased, and a water supply has been obtained. To meet this expenditure, the Duke of Norfolk has given £1200, and £2500 has been raised by loans from the Public Works Commissioners, and other bodies; in all, £3700 leaving a deficiency of £289 6s. 8d.

A further outlay will now be necessary for the purpose of making a tower, engine house, boilers, pump and tank and for the purchase of pipes and mains for the distribution of the water. A sum of about £9000 will be required, as shown by the following estimate.

	£	s.	d.
Pipes, Mains	2650	0	0
Tower, Engine House	3400	0	0
Engine, Boilers, Pumps and Tank...	2000	0	0
Cottage	250	0	0
Contingencies	450	0	0
Deficiency	289	0	0
	£9039	0	0

It is proposed to make a water tower 80 feet in height with a small high tank for extra pressure, and a larger tank, capable of holding 100,000 gallons, for storage.

During the past *five* years there have been 560 births and 264 deaths, so that the birth-rate, though not high, is yet more than twice as much as the death-rate. In this period 24 per-

sons died of catching disorders, 35 of consumption, and 39 of lung-diseases.

The following table will show the numbers in each year of the period 1875-79 :—

	1875.	1876.	1877.	1878.	1879.	Tl.	Mean.
Births	112	104	113	114	117	560	112
Deaths from all causes	54	52	48	60	50	264	52·8
Deaths from zymotic diseases	6	8	3	5	2	24	4·8
Deaths from consumption	7	6	8	8	6	35	7·0
Deaths from lung diseases	11	8	10	5	5	39	7·8

Hence it follows that, the population being 3848 in 1877, *i.e.*, in the middle of the period,

The mean birth-rate per 1000 was		29·1
„	death-rate „	13·7 or 13·1*
„	zymotic death-rate per 100,000 was	124 or 119*
„	consumption death-rate „	182 or 177*
„	lung diseases death-rate „	202 or 192*

* Excluding Visitors.

During the five years 11 visitors died, viz., one of scarlet fever, one of consumption, two of lung diseases, one from heart disease, one of liver disease, four from infantile complaints, and one person committed suicide.

(A) TABLE OF DEATHS during the year 1879, in the Urban Sanitary District of LITTLEHAMPTON; classified according to Diseases, Ages, and Localities, and showing also the Population of such Localities, and the Births therein during the year.

(I) Names of Localities (being Parishes Groups of Parishes, Townships, Wards, or other areas of known population) adopted for the purpose of these Statistics; public institutions being excluded.	POPULATION AT ALL AGES.		Registered Births.	MORTALITY FROM ALL CAUSES AT SUBJOINED AGES							MORTALITY FROM SUBJOINED CAUSES, DISTINGUISHING DEATHS IN PERSONS UNDER FIVE YEARS OF AGE.																					
																		Cont. Fevers														
	Census 1871	Estimated to middle of 1879		At all ages	Under 1 year	1 and under 5	5 and under 15	15 and under 25	25 and under 60	60 and upwards		Small Pox	Measles	Scarlatina	Diphtheria	Croup (not "spasmodic")	Whooping Cough	Typhus	Enteric or Typhoid	Other or doubtful	Diarrhœa and Dysentery	Cholera	Rheumatic Fever	Erysipelas	Pyæmia	Puerperal Fever	Ague	Phthisis	Bronchitis, Pneumonia and Pleurisy	Heart Disease	Injuries	Other Diseases
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
LITTLEHAMPTON URBAN SANITARY DISTRICT	3272	4032	117	50	6	3	4	3	12	22	Under 5				2														1		1	5
											5 upwds																	6	4	5	3	23
											Under 5																					
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(II.) Public Institutions.											Under 5																					
											5 upwds																					
TOTALS	3272	4032	117	50	6	3	4	3	12	22	Under 5				2														1		1	5
											5 upwds																	6	4	5	3	23

(B) TABLE OF MORTALITY AND SICKNESS in the Urban Sanitary District of LITTLEHAMPTON, 1879, for the twelve calendar months ending December 31st, 1879.

NAME OF DISEASE.	(A) Deaths (among all classes) registered as having occurred in the District or Division.				(B) Sickness and Deaths among Paupers.				(C) If there be be any Hospital or other Public Medical Institution in or near the District or Division, the subjoined columns are to be filled up.					
	Total deaths registered as above; including those enter'd in cols. IV. and V.		Deaths of Persons who have come into the District or Division with their fatal illness upon them.		Sickness and Deaths among out-door paupers; and among any paupers who belong to the District or Division, and have been removed into the Workhouse on account of illness; whether the Workhouse be within or without the District or Division.				IN-PATIENTS. Sickness and Deaths in such Institutions among inmates WHO BELONG TO the District or Division.				OUT-PATIENTS. New cases of Sickness among persons WHO BELONG to the District or Division, and are Out-Patients of Hospitals or Patients of Dispensaries.	
					New Cases		Deaths		New Cases		Deaths			
	Aged under 5 years	Aged 5 yrs. and upwds.	Aged under 5 years	Aged 5 yrs. and upwds.	Aged under 5 years.	Aged 5 yrs. and upwds.	Aged under 5 years.	Aged 5 yrs. and upwds.	Aged under 5 years.	Aged 5 yrs. and upwds.	Aged under 5 years.	Aged 5 yrs. and upwds.	Aged under 5 years.	Aged 5 yrs. and upwds.
I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	XII.	XIII.	XIV.	XV.
Small-Pox	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Measles	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Scarlatina	..	...	..	...	...	..	...	...	...	...	...	..	...	...
Diphtheria	2	...	...	...	...	...	...	...	...	...	...	...	...	...
Croup (not "spasmodic")	...	...	...	...	...	...	...	...	...	...	...	...	...	..
Whooping Cough	...	...	...	...	...	...	...	...	...	...	...	...	...	...
"Contim'd" Fevors. — Typhus	...	...	...	...	...	...	...	...	...	...	...	...	...	...
"Contim'd" Fevors. — Enteric	...	...	...	..	...	...	..	...	...	...	..	...	...	...
"Contim'd" Fevors. — Of other or doubtful sorts	...	...	...	...	..	...	...	...	...	...	...	...	...	...
Diarrhœa and Dysentery	...	...	...	..	...	...	...	...	...	...	...	...	...	...
Cholera	...	..	...	...	...	...	...	..	...	...	...	...	..	...
Rheumatic Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Erysipelas	...	...	...	...	...	...	...	...	...	..	...	..	...	...
Pyæmia	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal Fever	...	...	...	...	...	...	...	...	..	...	...	...	...	...
Ague	...	...	...	...	...	..	...	...	...	...	...	...	...	...
Phthisis	...	6	...	...	...	2	...	...	...	...	...	...	...	...
Bronchitis, Pneumonia & Pleurisy	1	4	...	...	1	3	...	...	...	...	...	...	...	...
Heart-Disease	...	5	...	...	...	3	...	1	...	...	...	...	...	...
Injuries	1	3	...	...	...	1	...	..	...	...	...	...	...	...
DISEASES NOT NAMED ABOVE	5	23	...	...	6	59	...	5	...	...	...	...	...	...
Total	9	41			7	68		6						

LITTLEHAMPTON URBAN SANITARY DISTRICT.

TABLE I.—Showing the Deaths and Death-rate at various groups of ages in the five years 1875-79.

YEAR.	At all ages.	Under 1 year.	1 and under 5.	Total under 5 yrs.	5 and under 15.	15 and under 25.	25 and under 60.	60 and upwards.
1875	54	4	9	13	1	1	24	15
1876	52	10	7	17	4	6	13	12
1877	48	9	2	11	1	2	16	18
1878	60	15	5	20	7	1	14	18
1879	50	6	3	9	4	3	12	22
TOTAL	264	44	26	70	17	13	79	85
Mean	52·8	8·8	5·2	14·0	3·4	2·6	15·8	17·0
Population in 1877 in each group.	3848	112	404	516	893	622	1463	354
Death-rate per 1000 persons living in each group	13·72	78·5	12·9	27·1	3·8	4·2	10·8	48·0
Death rate in England at corresponding ages in the 10 years 1861—70.	22·4	180·4	36·3	68·3	6·3	7·2	14·0	67·7

TABLE II.—Showing the Deaths in each of the Five Years, 1875-79 from Zymotic Diseases.

YEAR.	Small Pox	Measles	Scarlatina	Diphtheria	Croup (not "spasmodic")	Whooping Cough	Cont. Fvrs.			Diarrhœa and Dysentery	Cholera	Rheumatic Fever	Erysipelas	Pyæmia	Puerperal Fever	TOTAL.	Rate per 1000 living
							Typhus	Enteric or Typhoid	Other or doubtful								
1875	...	...	1	3	...	...	...	...	1	1	...	...	...	...	...	6	1·6
1876	...	...	3	...	...	1	...	...	...	3	...	..	1	...	...	8	2·1
1877	...	...	1	1	...	...	...	...	...	...	...	1	...	...	...	3	0·8
1878	...	...	3	...	...	...	...	...	...	1	...	...	...	...	1	5	1·2
1879	...	..	...	2	...	...	...	...	...	...	...	...	...	...	...	2	0·5
Tl.	...	...	8	6	...	1	...	...	1	5	...	1	1	...	1	24	1·24

URBAN SANITARY DISTRICT OF WEST WORTHING.

Population (1871), 427. Area in Acres, 300.
No. of Houses (1871), 66.

During the year 1879 the births of 11 children and the deaths of 7 persons were registered. The births and deaths during the past five years have been as follows :—

	Births.			Deaths.		
	M.	F.	Total.	M.	F.	Total.
1875	1	8	9	—	6	6
1876	—	2	2	4	—	4
1877	5	1	6	2	1	3
1878	5	3	8	—	1	1
1879	5	6	11	4	3	7
Total ...	16	20	36	10	11	21

Estimating the population in the middle of 1879 at 610, the birth-rate was 18·0 and the death-rate was 11·4 per 1000 persons living.

The only matter which calls for any especial mention is the occurrence of diarrhœa in this district in the months of September and October. The cases were mostly very mild, and there was no fatal result. The cause seemed to be due to the drinking water in some of the house cisterns having become contaminated by reason of the overflow pipe being in connection with the drain. In the year 1875 a circular was sent to each householder strongly advising that the cistern which supplied the drinking water should be used for no other purpose, and that every overflow pipe should be cut off from any direct communication with the drain ; it was urged also that there should be a separate cistern for each closet, and that all waste-pipes should be ventilated.

Several householders adopted the recommendations, and it is noteworthy that the cases of diarrhœa occurred in those houses which had one cistern for all purposes, and in which the overflow pipe was in direct connection with the drain. In the houses where the above suggestions were carried out, no cases of diarrhœa occurred, and this was very marked in the case of a large school, where not a single boy was taken ill, while those in neighbouring houses were attacked. The cause of the outbreak

seemed distinctly due not to defective drainage or sewerage, nor to any milk supply, nor to the water supply as provided by the Company, but solely to the fact that the water became impure after entering the house cistern, because the occupiers had neglected those precautions which they were advised to take four years previously. This view of the cause seems to derive some confirmation by an analysis of some water taken from the cistern of a house where there had been some cases of diarrhœa; the increased amount of ammonia was probably due to the water in the cistern having become contaminated by reason of the overflow pipe being connected with the drain. The following report on the subject was sent to the Sanitary Authority: —

"During the month of October there have been numerous cases of diarrhœa in your district, many very slight in character, a few of a more serious nature, but in no case attended with any fatal result.

On inquiring into the cause of the outbreak, I have looked into the state of the drainage and water-supply.

1. The main drains and sewers seem to be in good condition, and to be well flushed; there seems to be no nuisance arising from the outfall, and the stream which flows through the sewer into the sea serves to cleanse the open end of the sewer thoroughly. The drains are now certainly better ventilated, than they were four years ago, when I made a report upon them.

The drains to the various houses have in some cases been ventilated, and although this has not been done so frequently as it should be, yet there does not seem to be at the present time any escape of sewer-gas into the dwellings.

2. The water-supply is on the intermittent system and most of the houses have only one cistern or tank for all purposes. The overflow pipe from these tanks communicates in many cases with the drain. The water is drawn from a well 75 feet deep, and the upper part is so constructed as to prevent surface water flowing in.

There is, I believe, at the present time no cesspit in your district, and there are but three in Heene, which are distant about a quarter of a mile from the well.

There are a few houses near Heene Villas which used to have cesspools, but these have been done away with for some time past, and their sewage now flows into the main drain.

The water-pipes are about 3 feet from the surface of the ground, while the sewer-pipes are very much lower, so that it is not likely that any sewage can find its way from a leaky joint into a water main. There is an old brick culvert in the Heene Road, near the entrance to the Baths, which formerly received the waste water from the Baths and the drainage of one or two houses. This has been altered, and everything now runs away to the sea, but the culvert has not been cleaned out. With this exception, there does not seem to be anything which can in any way cause pollution of your water-supply as supplied from the *water-works*.

An analysis of the water shows that there is more organic matter in it (as shown by the amount of ammonia present), than should exist in a very good water. The amount of nitrates and nitrites is large, and this is always the case in water drawn from the chalk, the chalk itself being chiefly the remains of marine animals existing in bygone ages.

An average unpolluted chalk water has the following composition,

		Average water.	West Worthing.	Kent.
Total solid impurities.. ..	Per gallon.	29·8 ..	27·3 ..	30·1
Hardness :—				
Temporary		12·6 ..	12·0 ..	12·6
Permanent		4·0 ..	4·2 ..	5·1
Chlorine		2·45 ..	2·7 ..	1·8
Ammonia :—	In 100,000 parts.			
Free		·001..	·009..	·000
Albumenoid		(?) ..	·012..	·000
Nitrates and Nitrites....		·382..	·444..	·484

and side by side I place the analysis of the water taken from a tank in a house where diarrhœa was prevalent, and that supplied by the Kent company to London (also a chalk water).

Thus it will be seen that, with the exception of the ammonia present, the water taken from the cistern is very similar in composition to other chalk waters.

But the ammonia shows that there is some organic impurity although small in amount and very much less than in ordinary well water, as found in most villages and small places.

The diarrhœa seems to have attacked adults as well as children' people who drink but little water as well as those who are teetotallers, and it has appeared among those who live away from the sea as well as among those who dwell in the Terrace or Parade. I can find no evidence that the milk supply has been bad, nor am I clear that any atmospheric influence has been exerting any evil effect. During the autumn when there is much decaying vegetation, and when the nights are cold and damp, it is by no means uncommon to find cases of diarrhœa, but this view would seem to be disproved by the fact that in Worthing, among persons living in precisely similar conditions, there has not been any prevalence of diarrhœa, and, in fact, the disorder has been much less frequent than usual.

I think, then, that the water-supply has been the cause of the mischief, and that a main cause has been that there is only one cistern to supply the drinking water and the closets, and next, in many cases, the overflow pipe from the tank goes directly into a drain. I understand that this latter arrangement is being now altered, and it should be seen to by every householder.

I would call your attention to my report to you, dated June 24th, 1875, in which I made five suggestions, of which the first two have been complied with, while of the remaining three, which lie within the province of the owner or occupier, only a few have adopted them entirely.

It is, in my opinion, most desirable that each house should have separate cisterns for the drinking water and for the closets; that no overflow pipe in connection with the drinking water should have any communication whatever with a drain, but that its free end should terminate in the open air.

WEST WORTHING URBAN SANITARY DISTRICT.

TABLE I.—Showing the Deaths and Death-rate at various groups of ages in the five years 1875-79.

YEAR.	At all ages.	Under 1 year.	1 and under 5.	Total under 5 yrs.	5 and under 15.	15 and under 25.	25 and under 60.	60 and upwards.
1875	6	...	...	...	...	1	4	1
1876	4	...	2	2	...	...	1	1
1877	3	3	...	3	...	...	...	...
1878	1	...	...	...	...	...	1	...
1879	7	1	...	1	...	...	2	4
TOTAL.....	21	4	2	6	...	1	8	6
Mean	4·2	0·8	0·4	1·2	...	0·2	1·6	1·2
Population in 1877 in each group.	570	16	54	70	125	106	215	54
Death-rate per 1000 persons living in each group	7·4	50·0	7·4	17·1	0·0	1·9	7·4	22·0
Death rate in England at corresponding ages in the 10 years 1861—70.	22·4	180·4	36·3	68·3	6·3	7·2	14·0	67·7

TABLE II.—Showing the Deaths in each of the Five Years, 1875-79 from Zymotic Diseases.

YEAR.	Small Pox	Measles	Scarlatina	Diphtheria	Croup (not "spasmodic")	Whooping Cough	Cont. Fvrs.			Diarrhœa and Dysentery	Cholera	Rheumatic Fever	Erysipelas	Pyæmia	Puerperal Fever	TOTAL	Rate per 1000 living
							Typhus	Enteric or Typhoid	Other or doubtful								
1875	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1876	...	...	...	...	...	...	...	...	...	1	...	..	...	...	...	1	2·0
1877	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1878	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1879	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Tl.	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1	0·4

(A) TABLE OF DEATHS during the year 1879, in the Urban Sanitary District of WEST WORTHING; classified according to Diseases, Ages, and Localities, and showing also the Population of such Localities, and the Births therein during the year.

(I) Names of Localities (being Parishes, Groups of Parishes, Townships, Wards, or other areas of known population) adopted for the purpose of these Statistics; public institutions being excluded.	Population at all ages.		Registered Births.	Mortality from all causes at subjoined ages							Mortality from subjoined causes, distinguishing deaths in Persons under five Years of Age.																					
																		Cont. Fevers														
	Census 1871	Estimated to middle of 1879		At all ages	Under 1 year	1 and under 5	5 and under 15	15 and under 25	25 and under 60	60 and upwards		Small Pox	Measles	Scarlatina	Diphtheria	Croup (not "spasmodic")	Whooping Cough	Typhus	Enteric or Typhoid	Other or doubtful	Diarrhœa and Dysentery	Cholera	Rheumatic Fever	Erysipelas	Pyæmia	Puerperal Fever	Ague	Phthisis	Bronchitis, Pneumonia and Pleurisy	Heart Disease	Injuries	Other Diseases
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
West Worthing Urban Sanitary District	427	610	11	7	1	—	—	—	2	4	Under 5																					1
											5 upwds																	1		2		3
											Under 5																					
											5 upwds																					
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(II.) Public Institutions.											Under 5																					
											5 upwds																					
Totals	427	610	11	7	1	—	—	—	2	4	Under 5																					1
											5 upwds																	1		2		3

(B) TABLE OF MORTALITY AND SICKNESS in the Urban Sanitary District of WEST WORTHING, 1879, for the twelve calendar months ending December 31st, 1879.

NAME OF DISEASE.	(A) Deaths (among all classes) registered as having occurred in the District or Division.				(B) Sickness and Deaths among Paupers.				(C) If there be be any Hospital or other Public Medical Institution in or near the District or Division, the subjoined columns are to be filled up.					
	Total deaths registered as above; including those enter'd in cols. IV. and V.		Deaths of Persons who have come into the District or Division with their fatal illness upon them.		Sickness and Deaths among out-door paupers; and among any paupers who belong to the District or Division, and have been removed into the Workhouse on account of illness; whether the Workhouse be within or without the District or Division.				IN-PATIENTS. Sickness and Deaths in such Institutions among inmates WHO BELONG TO the District or Division.				OUT-PATIENTS. New cases of Sickness among persons WHO BELONG to the District or Division, and are Out-Patients of Hospitals or Patients of Dispensaries.	
					New Cases		Deaths		New Cases		Deaths			
	Aged under 5 years	Aged 5 yrs. and upwds.	Aged under 5 years	Aged 5 yrs. and upwds.	Aged under 5 years.	Aged 5 yrs. and upwds.	Aged under 5 years.	Aged 5 yrs. and upwds.	Aged under 5 years.	Aged 5 yrs. and upwds.	Aged under 5 years.	Aged 5 yrs. and upwds.	Aged under 5 years.	Aged 5 yrs. and upwds.
I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	XII.	XIII.	XIV.	XV.
Small-Pox	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Measles	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Scarlatina	..	...	...	...	...	..	...	...	...	...	...	..	...	...
Diphtheria	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Croup (not "spasmodic")	...	...	...	...	...	...	...	...	...	...	...	...	...	..
Whooping Cough	...	...	...	...	...	...	...	...	...	...	...	...	...	...
"Contin'd" Fevers. — Typhus	...	...	...	...	...	...	...	...	...	...	...	...	...	...
"Contin'd" Fevers. — Enteric	...	...	...	..	...	...	..	...	...	...	..	...	...	...
"Contin'd" Fevers. — Of other or doubtful sorts	...	...	...	...	..	...	...	...	...	...	...	...	...	...
Diarrhœa and Dysentery	...	...	...	..	...	...	...	...	...	...	...	...	...	...
Cholera	...	..	...	...	...	...	...	..	...	...	...	...	...	...
Rheumatic Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Erysipelas	...	...	...	...	...	...	...	...	...	...	...	..	...	...
Pyæmia	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal Fever	...	...	...	...	...	...	...	...	..	...	...	...	...	...
Ague	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Phthisis	...	1	...	...	...	...	...	...	...	...	...	...	...	...
Bronchitis, Pneumonia & Pleurisy	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Heart-Disease	...	2	...	1	...	...	...	...	...	...	...	...	...	...
Injuries	...	...	...	...	...	...	...	..	...	...	...	...	...	...
DISEASES NOT NAMED ABOVE	1	3	...	...	...	...	...	...	...	...	...	...	...	...
Total	1	6		1										

GENERAL REPORT

OF THE

HEALTH OF THE COMBINED SANITARY DISTRICT OF WEST SUSSEX.

In the whole Combined Sanitary District of West Sussex the births of 2634 children and the deaths of 1292 persons were registered during the year 1879. Of the 2634 births 1379 were male and 1255 were female; of the 1292 deaths 695 were male and 597 were female.

Taking the population of the district in the middle of the year at 85,102, the birth-rate was 30·9, and the death-rate was 15·1 per 1000 persons living.

In previous years the rates have been as follows :—

Year.	Births.	Birth-rate.	Deaths.	Death-rate.
1875	2419	29·5	1394	17·0
1876	2440	29·5	1353	16·3
1877	2549	30·5	1212	14·5
1878	2581	30·6	1354	16·0
1879	2634	30·9	1292	15·1

In each quarter the births were thus distributed :—

	M.	F.	Total.
First Quarter	329	332	661
Second Quarter	319	320	639
Third Quarter.....	359	277	636
Fourth Quarter	372	326	698
Year.....	1379	1255	2634

Throughout England and Wales the birth-rate for 1879 was equal to 35·1 per 1000, and it was 0·6 below the average rate in the ten preceding years.

Name of Sanitary Authority.	Population in middle of 1879.	Births.	Birth-rate per 1000.	Deaths.	Death-rate per 1000.
Steyning Rural	16,540	499	30·1	196	11·8
Horsham Rural.....	14,440	499	34·5	241	16·7
Petworth Rural.....	10,200	298	29·2	160	15·7
Thakeham Rural ...	8,745	275	31·4	127	14·5
East Preston Rural	7,745	234	30·2	125	16·1
Midhurst Rural.....	13,425	414	30·8	233	17·3
Worthing Urban ...	9,365	287	30·6	153 * / 146	16·3 * / 15·6
Littlehampton Urban	4,032	117	29·0	50	12·4
West Worthing Urban	610	11	18·0	7	11·4
Total	85,102	2,634	30·9	1292	15·1

* Including visitors.

The death-rate in England and Wales during 1879 was equal to 21·0 per 1000 persons living, and it was 0·8 below the average rate in the ten preceding years.

In the small towns and country districts where the mortality is always lower than in large places, the death-rate during the past year was 19·1 per 1000, while the mean of the previous ten years was 19·2 per 1000.

The south-eastern division, which includes Kent, Surrey, Sussex, Hampshire, and Berkshire, has always a lower mortality than the other registration divisions.

	Rate in S.E. Divison.			Rate in England.
1851-60	19·6	...	...	22.2
1861-70	19·1	...	...	22·4
1875	18·9	...	...	22·8
1876	17·4	...	...	21·0
1877	16·4	...	...	20·4
1878	17·8	...	...	21·7
1879	17·0	...	...	21·0

In West Sussex the mean birth-rate for the past five years is equal to 30·2, and the mean death-rate to 15·8 per 1000 persons living.

Amongst the 1292 who died there were 7 visitors, all of whom died at Worthing.

The deaths occurring in the various Union Workhouses have in each case been distributed among the several parishes whence each inmate came.

The influence of season on the death-rate is here shown :—

	1st Quarter.	2nd Quarter.	3rd Quarter	4th Quarter.
1876	406 ...	339 ...	295 ...	313
1877	330 ...	324 ...	266 ...	292
1878	366 ...	322 ...	329 ...	337
1879	398 ...	327 ...	266 ...	301
Total ...	1500	1312	1156	1243

The mild winter of 1877 shows a marked contrast to the severe cold of the other years ; the cool wet summers of 1877 and 1879 were very healthy.

By examining the deaths in each quarter at different groups of ages, the influence of a cold winter may be more clearly seen.

	Under one year.	1—5.	5—15.	15—25.	25—60.	60 and Upwards.	Total.
1st Quarter ...	77	38	14	20	78	171	398
2nd „ ...	69	21	14	19	63	141	327
3rd „ ...	43	15	14	19	77	98	266
4th „ ...	42	24	15	17	62	141	301
Year ...	231	98	57	75	280	551	1292

The prolonged and intense cold of the first quarter proved very fatal to young and old, while it hardly affected those between 5 and 60.

The *infant mortality* during the past year was at the rate of 88 deaths to every 1000 infants born against 107, 107, 85 and 101 in the four preceding years.

Throughout England and Wales the rate of infant mortality, as measured by the proportion of deaths under one year to births registered was equal to 136 per 1000, against 158, 146, 136 and 153, in the four preceding years.

The year 1879 resembled 1877 in having a low rate of infant mortality.

Table I. gives a comparative view of the death-rate in each sanitary district at six different periods of life. At each period up to sixty years of age, the rate in West Sussex is very much below the rate in England and Wales at the corresponding ages, but after sixty years the

mortality in this district is rather higher. It has been necessary for the purpose of this analysis to take the figures for England and Wales from the census reports of 1871, as they furnish the only available date at present. Since 1871 there has been a diminution in the infantile death-rate throughout the country, but the figures are sufficiently accurate for the purpose of comparison.

Table II. shows the mean population in each district at the six periods of life, and Table III. gives the mean annual number of deaths in each district during the past five years at the same periods of life. These numbers being known, it is easy to find out the death-rate for every 1000 persons living in each group.

By taking the past five years for analysis a more accurate result is obtained, as the mean rate for five years is more likely to be correct than the rate for any particular year.

In the case of Horsham and Midhurst the figures are necessarily based on the returns of four years (1876-79).

Accidental and Violent Deaths.

Table V. shows the deaths from accidents during the past year. The 37 deaths included nine from drowning, six from fractures, four from suffocation, five from falls, three from burns, two from railway accidents, one from a kick, one from shooting, four from being run over and two from other causes.

In 1876 there were 36 deaths, in 1877 there were 27 deaths and in 1878 there were 26 deaths from similar causes.

Taking the average of the past four years one out of every 2648 persons living dies from the effect of an accident.

Amongst the pauper population 14 children under four years of age met with accidents, but in no case was there any fatal result; 99 persons over five years of age were injured and of these 3 died.

Table VI. shows the deaths by suicide during the year.

Fourteen persons committed suicide, and of this number nine were male and five were female.

This number is in excess of any previous year, and the

cause may be traced to the general depression induced by a bad harvest and bad weather.

The number of deaths by suicide varies much in alternate years :—1875, 11 cases ; 1876, 5 cases ; 1877, 11 cases ; 1878, 5 cases.

Pauper Sickness.

The following table shows the new cases of sickness among paupers during the past year; all disorders are more common in the first quarter than at any other period of the year.

		Zymotic disease.	Phthisis.	Lung disease.	All causes.	
1st Qr.	under 5	21	—	40	164	1058
	5 and upwards ..	37	19	80	894	
2nd Qr.	under 5	14	—	11	84	799
	5 and upwards...	36	17	63	715	
3rd Qr.	under 5	20	—	1	67	580
	5 and upwards...	37	23	29	513	
4th Qr.	under 5	27	—	3	72	672
	5 and upwards...	60	14	36	600	
Year	under 5	82	—	55	387	3109
	5 and upwards...	170	73	208	2722	

Subjoined is a comparative statement of the new cases of sickness among paupers during the past three years and it shows that 1879 was on the whole very healthy.

		1877.		1878.		1879.	
Zymotic Diseases ...	Under 5.....	140	409	200	552	82	252
	5 and upwards	269		352		170	
Phthisis	Under 5.....	—	48	—	61	—	73
	5 and upwards	48		61		73	
Lung Diseases..... ...	Under 5.....	22	193	53	275	55	263
	5 and upwards	171		222		208	
All Causes	Under 5.....	417	3265	566	3710	387	3109
	5 and upwards	2848		3144		2722	

Zymotic or Catching Disorders.

Table VIII. shows the deaths from *zymotic* disorders in 1879. Out of 1292 deaths from all causes in the past year, 79 were due to this class of disorders, or 0·9 per 1000 persons living.

This rate is lower than in any previous year.

In 1874 the rate was 1·7 per 1000 persons living.

1875	„	1·7	„
1876	„	2·5	„
1877	„	1·1	„
1878	„	1·6	„
1879	„	0·9	„

In England and Wales the rate for the past six years for the seven principal zymotic diseases alone has been 3·7, 3·4, 3·1, 2·7, 3·3 and 2·4 per 1000.

There has undoubtedly been a very marked decrease during the current decade in the prevalence of zymotic disorders, and this improvement may be noted not only in this district, but throughout the country generally. Whether these disorders are less prevalent than at former periods, or whether, the cases of disease being as numerous, the fatality is less, is a point which cannot be decided unless the total number of cases of sickness were known.

The following summary shows that zymotic diseases, or those which may be looked upon as more or less preventable, are very much less fatal now than at previous periods.

Death-rate from Zymotic disorders per 100,000 persons living.

	1851-60	1861-70	1875-79.
Steyning R.S.D.	326	342	161
Horsham R.S.D.....	388	300	118
Petworth R.S.D.....	271	319	121
Thakeham R.S.D. ...	402	292	159
East Preston R.S.D..	335	309	135
Midhurst R.S.D. ...	321	243	131

The numbers for the three Urban Districts cannot be given here, as there are no data for making the comparison.

In England and Wales during the past five years of the current decade, the death-rate from the seven principal zymotic diseases has averaged 300 per 100,000, against 411 and 414 in the two preceding decades 1851-60 and 1861-70.

Typhus-fever, *Cholera* and *Small-pox* are almost unknown in country districts, and on the rare occasion when they are met with they are imported from large towns or seaports.

Measles and *Whooping-cough* break out every year, and they run their course unaffected by sanitary work. In the great majority of cases the children affected have no medical attendence.

These disorders affect infants and very young children, so that each year there arises a new generation liable to be attacked. *Scarlet fever,* on the other hand, is not so common among infants, and often when other children in the family are attacked the baby escapes; it is most frequent at about four or five years of age, and when it has appeared in an epidemic form throughout a district a certain interval of time has to elapse before another generation of children has risen liable to the disorder; hence its presence at one period more than another.

In 1876 and early in 1877 scarlet fever was very prevalent along the South Coast, but since then it has not appeared in an epidemic form, although isolated cases occur from time to time.

Diphtheria is a disease which affects young children, and chiefly those between five and ten years of age.

There would be seen to be two classes of cases known by this name.

1.—Those which seem to depend upon inhaling sewer-gas, and where the patient suffers from a form of blood poisoning. Such cases are generally confined to the house, where the local defect in the drainage exists, and there is no extension of the disease. Other inmates may be attacked, because they are all exposed to the common cause.

To this class belong those cases which break out in towns, and some of these have been recorded in previous reports. Reports II. p. 34; III. p. 30. V. p. 5.

2.—Those which seem to occur independent of any defective drains or water-supply, and which are most common in bleak and exposed situations. Such cases are met with in clean, well-built cottages, as well as in poorer tenements, and very often the disease breaks out with greater severity among the well-to-do than among those who are badly-housed and clad.

One point to be remarked is, that this form of disease, unlike the former class, appears in an epidemic form, and that associated with the more severe and well-marked cases, several other persons are attacked with sore throats about which no thought is taken.

This was the case at Bury and Sutton in 1876 (Report III. p. 12), and such has been the case in every succeeding break. I have very little doubt that these sore-throats

are really mild cases of diphtheria, and that they are infectious. In this way children go to school and spread the disease from one to another without the nature of the complaint being properly recognized. The outbreak at Lurgashall last autumn (p. 59), was a case in point, and attendance at school was the main agent in the spread of the disorder there.

Neither the drainage nor the water-supply nor the milk-supply seems to afford any due explanation of the prevalence of this disorder in one district more than another. A comparison of soils seems to show that it is far more frequent on the Weald clay than elsewhere, and next upon the upper greensand, where this formation crops out just above the impervious gault.

This difference would be much more marked if the forms under which this disease is known were more carefully distinguished. In Horsham, Petworth and Midhurst districts the complaint is very common, while in other parts it is compartively rare; in the former, it is more or less always present, occasionally breaking out in an epidemic form; in the latter, it appears occasionally, and it does not spread widely.

The following table gives an idea of the relation between the nature of the soil and the fatality of the disease :—

Soil.	Population.	Deaths from Diphtheria, 1875-79,	Death-rate per 1,000,000 living.
Loam and brick earth	28,736	23	160
Chalk	2,810	1	71
Lower greensand	16,174	2	24
Lower greensand and clayey beds	3,728	7	375
Gault	380	1	526
Upper Greensand	10,008	17	340
Weald Clay	17,668	33	373
Hastings Sands	3,931	4	203
Total	83,435	88	210

The single case on the chalk arose from local defects in the drainage of a private house, and many cases on the loam and brick earth occurred at Worthiug and Littlehampton, whose defective drainage seemed a cause.

It should be noted that if diphtheria be more common on the more impervious formations, it is also true that these

formations are to the north of the South Downs and therefore they are more exposed to the north and north-east winds. Another point worthy of notice is that children who have to go long distances to school seem more prone to the disorder than those who live near the school. Over and over again the cause of the illness has been put down to the east wind, to a heavy cold, or to sitting in wet clothes.

Many of the roads in the Weald are in a very bad state in the winter, and in wet weather the children that have to walk a mile or two to school are more affected by the weather than those who live close to.

The child that resides in a well-paved and well-drained town has a decided advantage in this respect.

Phthisis and Lung Diseases.

Consumption is less frequently registered as the cause of death than it used to be; lung diseases, on the other hand, are slightly on the increase.

The changes in each of the six rural districts are here contrasted for a long term of years:—

		In 100,000 persons living at all ages. 1851-60.		1861-70.		1875-79.	
Steyning R. S. D.....	Phthisis rate	197	386	201	393	179	410
	Lung rate ...	189		192		231	
Horsham R. S. D.	Phthisis rate	261	507	212	538	176	446
	Lung rate ...	246		326		270	
Petworth R. S. D.	Phthisis rate	283	494	226	456	163	445
	Lung rate ...	211		230		282	
Thakeham R. S. D.	Phthisis rate	285	474	221	418	122	412
	Lung rate ...	189		197		290	
East Preston R. S. D.	Phthisis rate	297	463	259	480	183	397
	Lung rate ...	166		221		214	
Midhurst R. S. D.	Phthisis rate	275	451	215	409	183	350
	Lung rate ...	176		194		167	

An analysis of this table shows that in each district there has been an enormous reduction in the death-rate from consumption, and even allowing that some cases of what used to be called phthisis are now included under some form of lung disease, yet even when the two series are added together there is no doubt a much less fatality than at former periods.

In England and Wales, the mortality from consumption

during the past quarter of a century, has fallen from 3000 to 2000 per million living.

If the above improvement in these rural districts had occurred in a large town, which had been drained at the commencement of the period under consideration, it would probably have been pointed out as a proof of the advantage gained by drainage, in reducing the amount of consumption. But in these rural districts there has been no change whatever in the drainage, and as far as the removal of sub-soil water is concerned, the houses are in much the same state as they were twenty years ago.

The great difference in the amount of consumption is probably dependent upon several causes. The improved state of the cottages, the rise of wages leading to the children being better clothed and fed, the increase in railway communication, which tends to diminish intermarriage, and to cause more interchange of population—all these changes, social as well as sanitary, have had their share in the improvement.

A summary is here given of the relation between the soil, the general death-rate, and the death-rate from three important groups of disorders :—

Soil.	Population.	Death-rate per 100,000 living, from— All Causes.	Zymotic Diseases.	Phthisis.	Lung Diseases
Loam and Brick-Earth.....	28736	1599	169	179	209
Chalk.....	2810	1317	128	128	220
Lower Greensand.	16174	1474	113	178	210
Do. clayey beds	3728	1738	150	233	316
Gault.....	380	1973	105	53	263
Upper Greensand.	10008	1367	162	164	252
Weald Clay	17668	1561	124	169	252
Hastings Sands ..	3931	1470	101	152	292
Total	83435	1579	143	174	233

An examination of this table does not altogether bear out the view of those who maintain that dampness of soil, and phthisis are intimately related. The lower greensand beds are certainly not so damp as the Weald clay, yet the mortality is higher. It is true that the chalk, a dry soil, has a low rate, but the numbers living on it are small, and a few deaths make an enormous difference in the rate.

It should be noted, too, that most of the impervious beds are to the north of the south downs, and consumption seems most common in places which are bleak and exposed, as well as damp. Midhurst, Petworth and Henfield are all towns with an unduly high phthisis rate, and they stand upon ground with ample and easy slopes, but yet exposed to cold winds.

In Dr. Buchanan's report on phthisis in Sussex, &c., during the ten years 1851-60, it will be seen that a list of 58 unions is arranged in the order of the frequency of consumption, the lowest in order being first on the list. Amongst the West Sussex districts, Steyning was the highest and Petworth was the lowest on the list.

Had the comparison been made in the next decade (1861-70), the position of nearly all the unions would have been materially altered.

The contrast in the districts in West Sussex is here shown, by placing the position occupied in the list at the two periods on either side the district :—

No. in series of 58 Unions, 1851-60.	DISTRICT.	No. in series of 58 Unions, 1861-70.
11	Steyning	11
48	East Preston	45
52	Horsham	28
54	Midhurst	35
55	Thakeham	33
56	Petworth	41

By taking the deaths from consumption at the ages of 15-55 years, a more ready comparison can be made with Dr. Buchanan's tables.

Such a comparison is here made :—

REGISTERED PHTHISIS DEATH-RATE, 15—55.

	1851—60.		1861—70.		1875—79.	
	Mean of two sexes.	Females.	Mean of two sexes.	Females.	Mean of two sexes.	Females
Steyning	295	304	288	309	264	229
Horsham	440	518	340	428	303	307
Petworth	462	509	397	490	286	297
Thakeham	454	560	356	379	208	200
East Preston	419	445	417	393	274	315
Midhurst	455	539	360	407	287	287

This method brings one to the same conclusion. The

consumption, or phthisis death-rate has been distinctly lowered in recent years, but the above facts do not seem to show that dampness of soil has a very intimate connexion with the disease, because such great variations occur in the prevalence of the disorder, while very little, if any, change has taken place during the same period in the drainage of the soil.

TABLE I.

Showing the MEAN DEATH-RATE per 1000 in each district at each group of ages in the Five Years, 1875-79.

	At all ages.	Under 1 year.	1 and under 5.	Total under 5 years.	5 and under 15.	15 and under 25.	25 and under 60.	60 and upwards.
Steyning	14·68	142·0	17·3	43·4	2·5	3·6	9·2	65·8
Horsham	15·15	102·0	11·2	31·1	2·9	5·2	9·3	73·7
Petworth	16·24	93·2	12·2	29·1	4·0	5·4	9·6	71·4
Thakeham	15·51	97·9	12·6	29·7	1·9	5·1	8·6	74·9
East Preston	17·07	96·2	16·3	33·2	4·6	6·2	10·4	71·8
Midhurst	16·22	100·0	11·6	29·6	4·3	3·4	10·6	69·2
Worthing	18.23	125·0	19·4	42·3	2·9	4·4	12·9	71·6
Littlehampton	13·72	78·5	12·9	27·1	3·8	4·2	10·8	48·0
West Worthing.. ..	7·37	50·0	7·4	17·1	0·0	1·9	7·4	22·0
TOTAL	15·79	180·4	13·9	33·6	3·2	4·5	10·0	69·4
Rate in England and Wales	22·40	107·3	36·3	68·3	6·3	7·2	14·0	67·7

TABLE II.

Showing the MEAN POPULATION in 1877, at each group of ages in each district.

	At all ages.	Under 1 year.	1 and under 5.	Total under 5 years.	5 and under 15.	15 and under 25.	25 and under 60.	60 and upwards.
Steyning	15913	384	1447	1831	3527	3222	6172	1161
Horsham	14355	426	1519	1945	3456	2418	5330	1143
Petworth	10185	279	1061	1340	2374	1784	3685	1002
Thakeham	8664	239	951	1190	2118	1393	3151	812
East Preston	7543	214	798	1012	1750	1219	2868	694
Midhurst	13329	358	1398	1756	3120	2203	4935	1315
Worthing	9028	237	855	1092	2022	1686	3370	858
Littlehampton	3848	112	404	516	893	622	1463	354
West Worthing.....	570	16	54	70	125	106	215	54
TOTAL	83435	2265	8487	10752	19385	14716	31189	7393

TABLE III.

Showing the MEAN ANNUAL NUMBER OF DEATHS in 1875-79 at each group of ages in each district.

District.	At all ages.	Under 1 year.	1 and under 5.	Total under 5 years.	5 and under 15.	15 and under 25.	25 and under 60.	60 and upwards.
Steyning	233·6	54·6	25·0	79·6	8·8	11·8	57·0	76·4
Horsham	217·5	43·5	17·0	60·5	10·25	13·0	49·5	84·25
Petworth	165·4	26·0	13·0	39·0	9·6	9·6	35·6	71·6
Thakeham	134·4	23·4	12·0	35·4	4·0	7·2	27·0	60·8
East Preston	128·8	20·6	13·0	33·6	8·0	7·6	29·8	49·8
Midhurst	216·2	35·75	16·25	52·0	13·5	7·5	52·25	91·0
Worthing	164·6	29·6	16·6	46·2	6·0	7·4	43·6	61·4
Littlehampton	52·8	8·8	5·2	14·0	3·4	2·6	15·8	17·0
West Worthing.....	4·2	0·8	0·4	1·2	0·0	0·2	1·6	1·2
TOTAL.....	1317·5	243·05	118·4	361·5	63·55	66·9	312·15	513·45

TABLE IV.

Showing the Births in each district in 1879.

Name of Sanitary Authority.	1st Quarter.			2nd Quarter.			3rd Quarter.			4th Quarter.			Year.			Birth-rate per 1000 of Population.
	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	
Steyning	75	79	154	47	57	104	69	47	116	77	48	125	268	231	499	30·1
Horsham	65	53	118	69	54	123	71	56	127	76	55	131	281	218	499	34·5
Petworth	37	32	69	37	47	84	32	24	56	36	53	89	142	156	298	29·2
Thakeham	36	39	75	33	34	67	37	26	63	35	35	70	141	134	275	31·4
East Preston ...	22	31	53	22	32	54	26	19	45	48	34	82	118	116	234	30·2
Midhurst	49	47	96	48	39	87	64	61	125	59	47	106	220	194	414	30·8
Worthing	29	34	63	42	43	85	44	31	75	29	35	64	144	143	287	30·6
Littlehampton	15	16	31	20	14	34	15	13	28	10	14	24	60	57	117	29·0
West Worthing	1	1	2	1	...	1	1	...	1	2	5	7	5	6	11	18·0
Total	329	332	661	319	320	639	359	277	636	372	326	698	1379	1255	2634	30·9
In 1877	300	338	638	365	323	688	298	274	572	346	305	651	1309	1240	2549	30·5
In 1878	339	320	659	360	300	660	320	319	639	309	314	623	1328	1253	2581	30·6

TABLE V.

Showing the Accidental Deaths in 1879.

Cause of Death.	Steyning R. S. D.		Horsham R. S. D.		Petworth R. S. D.		Thakeham R. S. D.		East Preston R. S. D.		Midhurst R. S. D.		Worthing U. S. D.		Littlehampton U. S. D.		West Worthing U. S. D.		Total	Total both sexes.
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F		
By Drowning.....	...		3	...	2	...	...		2	...	...		1	...	1	...	...		9	9
,, Fractures.....	...		2	2	1	...	...		...		...		1	...	...		...		6	6
,, Suffocation	...		1	...	...		...	2	...		...		1	...	...		...		4	4
,, Fall	1	1	...		1	...	...		...	1	...		...		...	1	...		5	5
,, Burns and Scalds	...		...	2	...		...		1	...	...		...		...		...		3	2
,, Railway	1	...	...		...		...		1	...	...		...		...		...		2	1
,, Kick from horse	...		1	...	...		...		...		...		...		...		...		1	1
,, Shooting	...		...		1	...	...		...		...		...		...		...		1	1
,, Being run over...	...		...		1	...	1	...	...		1	...	1	...	...		...		4	4
,, Other injuries ...	...		...		...		...		...		...		1	1	...		...		2	2
Total.....	2	1	7	4	6	...	1	2	4	1	1	...	5	1	1	...	...		27	37
In 1877	9	...	2	1	2	2	2	...	4	1	3	...	1	...	...		...		23	27
In 1878	6	2	2	...	2	2	1	...	2	1	2	2	...		3	1	...		18	26

TABLE VI.

Showing the Deaths by Suicide in 1879.

Mode of Death.	Steyning R. S. D.		Horsham R. S. D.		Petworth R. S. D.		Thakeham R. S. D.		East Preston R. S. D.		Midhurst R. S. D.		Worthing U. S. D.		Littlehampton U. S. D.		West Worthing U. S. D.		Total.		Total both sexes.
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
By Shooting	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1
„ Cutting Throat	...	...	...	1	...	...	...	...	...	...	1	1	...	...	1	...	...	...	2	2	4
„ Drowning	1	1	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	3	1	4
„ Hanging	1	...	...	...	...	...	...	1	...	...	1	..	...	...	...	...	...	...	2	1	3
„ Being run over by train	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1
„ Taking Poison	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	1
Total	3	1	2	1	...	...	...	1	...	...	2	2	1	...	1	...	...	...	9	5	14
In 1875	1	1	3	...	2	...	...	...	3	...	...	...	...	...	1	...	...	...	9	2	11
„ 1876	1	...	...	...	1	...	1	...	1	...	...	...	1	...	...	...	...	...	5	...	5
„ 1877	2	...	3	...	...	...	2	...	1	1	1	...	...	1	...	...	...	...	9	2	11
„ 1878	1	...	1	...	1	...	...	...	...	...	1	...	1	...	...	...	...	...	5	...	5

TABLE VII.

Showing the Deaths and Death-rate from all causes, and from various causes, in the five years 1875-79.

District.	Population in 1877.	Mean Annual Number of Deaths, 1875—79.	Mean Annual Death-rate, 1875—79.	Per 100,000 living at all ages.		
				Mean Annual Zymotic-rate, 1875—79.	Mean Annual Phthisis-rate, 1875—79.	Mean Annual Lung-rate, 1875—79.
Steyning	15,913	233·6	14·68	161	179	231
Horsham	14,355	217·5	15·15	118	176	270
Petworth	10,185	165·4	16·24	121	163	282
Thakeham	8664	134·4	15·51	159	122	290
East Preston	7543	128·8	17·07	135	183	214
Midhurst	13,329	216·2	16·22	131	183	167
Worthing	9028	164·6	18·23	208 183*	201 170*	215 192*
Littlehampton	3848	52·8	13·72	124 119*	182 177*	202 192*
West Worthing	570	4·2	7·37	35	70	...
Total	83,435	1317·5	15·79	143	174	233

* Excluding visitors.

TABLE VIII.

Showing the DEATHS from *Zymotic Disorders* in 1879.

Name of Sanitary Authority.	Small Pox	Measles	Scarlatina	Diphtheria	Croup (not "spasmodic")	Whooping Cough	Cont. Fevers			Diarrhœa and Dysentery	Cholera	Rheumatic Fever	Erysipelas	Pyæmia	Puerperal Fever	TOTAL	Rate per 1000 persons living.
							Typhus	Enteric or Typhoid	Other or doubtful								
Steyning Rural	...	..	1	1	...	2	...	3	1	1	...	...	2	1	...	12	0·7
Horsham Rural	...	3	1	3	...	8	...	1	1	3	...	...	...	...	1	21	1·4
Petworth	..	...	...	8	...	1	...	2	..	1	...	1	..	..	...	13	1·2
Thakeham	...	...	...	1	...	3	...	1	...	2	...	1	...	1	...	9	1·0
East Preston Rural	...	...	...	...	...	...	...	1	...	...	...	...	..	...	...	1	0·1
Midhurst Rural	...	1	...	6	...	1	..	1	...	1	...	2	...	...	...	12	0·9
Worthing Urban	...	5	...	1	...	2	..	...	...	...	...	...	1	...	...	9	0·9
Littlehampton Urban	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	2	0·5
West Worthing Urban.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0·0
TOTAL	...	9	2	22	...	17	...	9	2	8	...	4	3	2	1	79	0·9
In 1878	1	5	18	15	...	12	1	8	3	17	...	6	3	1	4	94	1·1
In 1879	2	9	6	13	...	40	2	10	1	43	...	1	3	2	6	138	1·6

(A) TABLE OF DEATHS during the year 1879, in the Combined Sanitary District of WEST SUSSEX; classified according to Diseases, Ages, and Localities, and showing also the Population of such Localities, and the Births therein during the year.

(I) Names of Localities (being Parishes Groups of Parishes, Townships, Wards, or other areas of known population) adopted for the purpose of these Statistics; public institutions being excluded.	Population at all ages		Registered Births.	Mortality from all causes at subjoined ages							Mortality from subjoined causes, distinguishing deaths in Persons under five Years of Age.																				
	Census 1871	Estimated to middle of 1879		At all ages	Under 1 year	1 and under 5	5 and under 15	15 and under 25	25 and under 60	60 and upwards		Small Pox	Measles	Scarlatina	Diphtheria	Croup (not "spasmodic")	Whooping Cough	Cont. Fevers			Diarrhœa and Dysentery	Cholera	Rheumatic Fever	Erysipelas	Pyæmia	Puerperal Fever	Ague	Phthisis	Bronchitis, Pneumonia and Pleurisy	Heart Disease	Injuries	Other Diseases
																		Typhus	Enteric or Typhoid	Other or doubtful											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
Steyning R. S. D.	14060	16540	499	196	41	18	6	10	53	68	Under 5			1			2				1								14		2	39
											5 upwds				1				3	1				2	1			29	16	17	6	61
Horsham R. S. D.	14131	14440	499	241	50	22	12	21	47	89	Under 5		3	1	1		8				2								20		2	35
											5 upwds				2				1	1	1					1		30	29	17	12	75
Petworth R. S. D.	10138	10200	298	160	28	13	13	11	27	68	Under 5				3		1		1		1								14			21
											5 upwds				5				1				1					17	21	15	6	53
Thakeham R. S. D,	8422	8745	275	127	20	7	4	6	23	67	Under 5						3				1								5		2	16
											5 upwds				1				1		1		1		1			9	21	16	2	47
East Preston R. S. D.	6937	7745	234	125	24	6	5	8	27	55	Under 5																		10			20
											5 upwds								1									7	9	12	5	61
Midhurst R. S. D.	13051	13425	414	233	40	16	11	8	50	108	Under 5		1				1				1								12			41
											5 upwds				6				1				2					26	19	32	5	86
Worthing U. S. D.	8013	9365	287	152	21	13	2	8	38	70	Under 5		5		1		2												4		2	20
											5 upwds													1				18	17	17	5	60
Littlrhampton U. S. D.	3272	4032	117	50	6	3	4	3	12	22	Under 5				2														1		1	5
											5 upwds																	6	4	5	3	23
West Worthing U. S. D.	427	610	11	7	1	—	—	—	2	4	Under 5																					1
											5 upwds																	1		2		3
(II.) Public Institutions. The Worthing Infirmary				1					1		Under 5																					
											5 Upwds																			1		
Totals	78451	85102	2634	1292	231	98	57	75	280	551	Under 5		9	2	7		17		1		6								80		9	198
											5 upwds				15				8	2	2		4	3	2	1		143	136	134	44	469

(B) TABLE OF MORTALITY AND SICKNESS in the Combined Sanitary District of WEST SUSSEX, 1879, for the twelve calendar months ending December 31st, 1879.

NAME OF DISEASE.	(A) Deaths (among all classes) registered as having occurred in the District or Division.				(B) Sickness and Deaths among Paupers.				(C) If there be be any Hospital or other Public Medical Institution in or near the District or Division, the subjoined columns are to be filled up.					
	Total deaths registered as above; including those enter'd in cols. IV. and V.		Deaths of Persons who have come into the District or Division with their fatal illness upon them.		Sickness and Deaths among out-door paupers; and among any paupers who belong to the District or Division, and have been removed into the Workhouse on account of illness; whether the Workhouse be within or without the District or Division.				IN-PATIENTS. Sickness and Deaths in such Institutions among inmates WHO BELONG TO the District or Division.				OUT-PATIENTS. New cases of Sickness among persons WHO BELONG to the District or Division, and are Out-Patients of Hospitals or Patients of Dispensaries.	
					New Cases		Deaths		New Cases		Deaths			
	Aged under 5 years	Aged 5 yrs. and upwds.	Aged under 5 years	Aged 5 yrs. and upwds.	Aged under 5 years.	Aged 5 yrs. and upwds.	Aged under 5 years.	Aged 5 yrs. and upwds.	Aged under 5 years.	Aged 5 yrs. and upwds.	Aged under 5 years.	Aged 5 yrs. and upwds.	Aged under 5 years.	Aged 5 yrs. and upwds.
I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	XII.	XIII.	XIV.	XV.
Small-Pox	...	..	...	...	...	...	...	...	...	...	...	...	...	...
Measles	9	...	...	...	23	24	2	...	...	...	...	...	...	...
Scarlatina	2	...	1	...	2	7	...	...	...	...	...	..	...	...
Diphtheria	7	15	...	...	7	41	...	4	...	...	...	...	...	...
Croup (not "spasmodic")	...	...	...	...	...	...	...	...	...	...	...	...	...	..
Whooping Cough	17	...	...	...	34	18	1	...	...	...	...	...	...	...
"Contin'd" Fevers. — Typhus	...	...	...	...	...	1	...	...	...	...	...	...	...	...
"Contin'd" Fevers. — Enteric	1	8	...	..	...	6	..	1	...	...	..	...	...	...
"Contin'd" Fevers. — Of other or doubtful sorts	...	2	...	...	..	6	...	1	...	...	...	...	...	...
Diarrhœa and Dysentery	6	2	...	..	16	47	1	...	...	...	...	...	...	...
Cholera	...	..	...	...	...	...	...	..	...	...	...	...	...	...
Rheumatic Fever	...	4	...	...	...	5	...	1	...	...	...	...	...	...
Erysipelas	...	3	...	...	...	14	...	1	...	...	...	...	...	...
Pyæmia	...	2	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal Fever	...	1	...	...	...	1	...	1	...	...	...	...	...	...
Ague	...	...	...	...	...	2	...	...	...	1	...	...	...	...
Phthisis	...	143	...	...	...	73	...	26	...	...	...	...	...	3
Bronchitis, Pneumonia & Pleurisy	80	136	...	1	55	208	9	31	...	...	...	...	...	...
Heart-Disease	...	134	...	1	...	36	...	21	...	2	...	1	...	...
Injuries	9	44	1	1	14	99	...	3	...	22	...	...	2	32
DISEASES NOT NAMED ABOVE	198	469	1	2	236	2134	12	93	1	27	...	...	86	942
Total	329	963	3	5	387	2722	25	183	1	52		1	88	977